The Milroy Lectures

ON

THE NATURAL HISTORY OF VACCINIA.

Delivered before the Royal College of Physicians of London

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LECTURE I.[1]

Delivered on May 3rd, 1898.

MR. PRESIDENT, CENSORS, AND GENTLEMEN,—I feel that it would be superfluous for me to dwell at any length upon the very great gratification it affords me to have been selected to deliver the Milroy Lectures. I can only assure you of my appreciation of the honour you have been pleased to confer upon me and express my pleasure at being granted the opportunity of addressing you on certain points in connexion with the Natural History of Vaccinia—a subject, as it seems to me, specially appropriate to the present occasion, seeing that this year not only marks the centenary of Jenner's first publication but also the inauguration of a new era in the practice of vaccination in this country.

Just one hundred years ago, in the summer of the year 1798, there burst upon the world a treatise the publication of which marked a never-to-be-forgotten event in the history of scientific medicine. This truly epoch-making publication was entitled "An Inquiry into the Causes and Effects of the Variolæ Vaccinæ, a disease discovered in some of the Western counties of England, particularly Gloucestershire, and known by the name of the cow-pox." It was the work of Edward Jenner, a country medical practitioner living at Berkeley in the vale of Gloucester. But in order adequately to appreciate the far-reaching importance of his work, first submitted to the world in the comparatively small compass of a quarto pamphlet of seventy-five pages, it is necessary for us to endeavour to transport ourselves in thought backwards for a century or more in order to realise approximately the truly terrible and far-reaching nature of the scourge the only efficient preventive of which was first introduced to the human race through the publication of Jenner's "Inquiry."

Thus Macaulay, in an oft-quoted passage in which he refers to the death in 1694 of Queen Mary, wife of William III., writes: "That disease over which science has since achieved a succession of glorious and beneficent victories was then the most terrible of all the ministers of death. The havoc of the plague had been far more rapid, but the plague had visited our shores only once or twice within living memory and the small-pox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not yet stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered and making the eyes and cheeks of the betrothed maiden objects of horror to her lover."

The ever-present danger and the lively apprehensions engendered through recognition of the slight chance of anyone evading the onslaught of the scourge between childhood and maturity is also brought out somewhat forcibly in an extract from the "Pages from a Private Diary" in the January number of the *Cornhill Magazine* for the present year. It runs as follows: "I came on a curious passage in a letter of Mrs. Waller's to her banished son about the marriage of his daughter. She wishes to know what dowry he is prepared to give. 'I am not in haste to marry her, she is young enough to stay, but the danger is if she should catch the small-pox or her beauty should change it would be a great loss to her.' Everybody," adds the writer, "is familiar with the frequent references to small-pox in the letters and memoirs of the seventeenth century. Pepys is full of it; but I have never met with a passage that brings so keenly home to me the nearness of the risk."

In this connexion, also, may be mentioned a record of an epidemic of small-pox in the small town of Ware in 1722. The population at the commencement of the epidemic was 2515, of whom 1601 are stated to have had small-pox previously, the remaining 914 being therefore presumably susceptible to the disease. During the course of the epidemic, of these 914 persons 612 were attacked, of whom 72 died. The remaining 302 persons who escaped attack are spoken of in the record in quaintly dogmatic fashion as "to have the small-pox." We possess also a record of an epidemic which occurred at Warrington in 1773, where out of 473 deaths from all causes during the year among a population estimated at 8000 no less than 211 were attributed to small-pox. And from a report by Haygarth of Chester we learn, as in the case of Ware, how small a proportion of the population in these places had not suffered from small-pox at one time or another. The actual number of persons attacked at Chester in 1774 was 1202, of whom 202 died, the total population of the town being at this time 14,713. But as the result of an investigation carried out at the commencement of the following year it becomes fairly certain that previously to the outbreak in 1774 there were in Chester, of the whole population, only 2262, or 15 per cent., who had not already had the disease. Consequently, of the remaining susceptible portion of the inhabitants more than half were attacked before the end of the year. These epidemics at Chester and Warrington also illustrate a marked characteristic of small-pox in the eighteenth century which is also noticeable in the records of this and probably also of preceding periods in which the age of those attacked is given—namely, the large proportion of the deaths contributed by children under ten years old. In the Warrington outbreak of 1773 and also in that which appeared in Chester in the following year not a single death occurred in persons above this age, while of the 202 deaths at Chester no less than a quarter of the total number were accounted for by infants of less than twelve months. Other instances of a like condition of affairs noted in the recent Royal Commission's final report refer to Kilmarnock, where out of 622 deaths occurring between 1728 and 1763 of which with nine exceptions the ages are recorded, only seven were of those above ten years, and to records obtained from the burial registers of the graveyard of St. Cuthbert's, Canongate and Buccleuch-street, Edinburgh, from which we learn that during the years 1764–83, of every thousand deaths from small-pox at all ages no less than 993 of these deaths were among children below ten years of age.

In considering the question of ratio of deaths from small-pox to the living population we are beset with several difficulties. In the first place, as Dr. J. C. McVail points out, in no single epidemic in London in former centuries was it possible to see small-pox at its worst, since epidemics followed one another at such rapid intervals that of necessity the material on which at any one period their energy could exert itself was extremely limited. "At any given date the great bulk of the people had already had small-pox, and it was only among a fraction that there was room for the disease to spread. Yet it was among such fractions of the population that small-pox every few years slew its thousands in London alone." If we desire to obtain an illustration of the full effects of an invasion of small-pox when not thus hampered by the existence of very general immunity the result of former epidemics we must turn our attention to some particular locality which owing to its isolated position has previously escaped invasion. In illustration of this point we may take the case of Iceland, where during 1707–9 out of a total population of 50,000 no less than 18,000 persons died from this disease.

Aitken calls attention to the fact that since the date of the first accounts by the Arabian physicians of the ravages of small-pox in Mecca the history of this disease may be arranged in three great stages, each of which is characterised by remarkable epochs. The first of these periods is marked by an improvement in the treatment of small-pox, the merit of this revolution in medical practice being due to Sydenham. In few diseases, indeed, has medical opinion undergone in the course of years a more obviously beneficial change. The second stage is marked by the discovery of the singular phenomenon that the virulence of the poison of small-pox is greatly mitigated by introducing or engrafting the disease into the system through the cutaneous tissues,

[1] Lecture II. was delivered on May 5th and Lecture III. will be delivered on May 10th.

thereby causing the transference of the disease from one person to another by inoculation. To Lady Mary Wortley Montagu, in 1722, we owe the introduction of the practice of inoculation into this country, a deed which must be considered as one of no little bravery when measured by the knowledge possessed by physicians in those days. The third great era is characterised by the remarkable discovery which has rendered the name of Jenner immortal—namely, the modifying and protecting influence of vaccination.

With the therapeutic treatment of small-pox we are not on the present occasion concerned. On the other hand, the practice of inoculation, although prohibited by law since the passing of the first Vaccination Act, is yet deserving of some attention. We shall then be in a position more fitly to discuss the question of the discovery of vaccination and of the evidence on which its employment was originally based. There will remain for our consideration a review of such accretions to our knowledge of the subject of vaccination, more particularly from the standpoint of pathology, as the progress of scientific research during the century since Jenner wrote has rendered available. To marshal these in order, to try to indicate their relative importance, and to direct attention to their bearing on the necessity for certain changes in the regulation and practice of vaccination, as these obtain at the present time, is the chief aim which I have had in view in the preparation of these lectures.

INOCULATION.

Recognition in former times of the certainty that almost everyone would suffer attack by small-pox during some period of his or her life and the lively horror inspired by the disease by reason not only of the high fatality inseparable from it but also of the maiming and disfiguring effects on a large proportion of those who survived its invasion naturally turned men's minds the world over to the question as to whether it were not possible to devise some method for mitigating the virulence of the plague. Whence, however, was originally derived or by whom accidentally or otherwise was discovered the artificial method of communicating small-pox which came to be known by the term "inoculation" it is at the present day impossible to say. According to tradition the process of inoculation has been in use among the Brahmins in India for centuries and a similar claim has been made on behalf of the Chinese. There can be little doubt that in China a method of artificially communicating small-pox was in vogue long ages apparently before the disease had obtained recognition in Europe, but the process was essentially different from inoculation properly so-called, consisting as it did of inserting small-pox crusts into the nostril of the patient, whereby the disease was communicated by way of the respiratory tract. Coming to comparatively recent times, however, we have definite evidence that inoculation was practised in Turkey early in the eighteenth century.

In the 29th volume of the Philosophical Transactions of the Royal Society may be found references to the process as observed in 1713 by Dr. Emanuel Timoni of Athens and in 1716 by M. Pylarini, then Venetian Consul at Smyrna. But it would seem that their description made little, if any, impression at the time and, although published in the records of the Royal Society, passed almost at once into oblivion. The actual introduction of inoculation into England was brought about through the instrumentality of Lady Mary Wortley Montagu, who, apart from her social status as the wife of the English Ambassador at the Ottoman Court, has achieved for herself lasting recognition in literature by reason of her attainments in the gentle art of letter-writing. Indeed, Professor Rayleigh in a recent lecture at the Royal Institution gave it as his opinion that in this respect she should be placed second only to Madame Sevigné. Writing from Adrianople in 1718 she says: "The small-pox, so fatal and so general amongst us, is here entirely harmless by the invention of *engrafting*, which is the term they give it. Every year thousands undergo the operation; and the French Ambassador says, pleasantly, that they take the small-pox here by way of diversion, as they take the waters in other countries. There is no example of anyone who has died in it; and you may believe I am well satisfied of the safety of this experiment, since I intend to try it on my dear little son. I am patriot enough to take pains to bring this useful invention into fashion in England." Lady Montagu had indeed the courage of her opinion, and the first person inoculated in England was her daughter. This first operation by Dr. Maitland in April, 1721, was shortly followed by the inoculation of a child of her family physician, Dr. Keith. Next an experiment on a larger scale was carried out on certain condemned felons who were offered the alternative of submitting to the operation. No ill result having been witnessed thus far, King George I., who had been much interested in the matter, was himself inoculated, as also were several members of his family. Apparently, however, the method did not generally commend itself to public taste; moreover, it was discovered that, contrary to anticipation, persons inoculated with small-pox became themselves centres of infection and, perhaps for the reason that no serious attempt was made at that time to diffuse information on the subject, it was not until thirty years or more subsequently to its introduction into this country that inoculation as a prophylactic against small-pox became practised to any considerable extent.

In his "Synopsis Medicinæ," published in 1761, Dr. John Allen, a Fellow of the Royal Society, gives the following curious directions for the inoculation of the small-pox: "First, a little quantity of purulent Matter must be procured, about 5 or 6 drops taken from the Pustles of some young Person, who has the benign Small-pox of the distinct Kind, which must be brought to the Place where the Operation is to be performed in a Small Vial or in a little Pill-Box; and when all Things are prepared, the Surgeon is to make two small Wounds, one on the Arm, and the other on the Leg, of the Opposite Side; and the aforesaid variolous Matter is to be applied to the Wounds on Dossils of Lint, and a Bandage to be made over it. There is no occasion to make the incisions deeper than just through the Skin, nor any longer than a Barley-Corn. After 24 hours the Dossils may be removed, and the Ulcers dressed with Diachylum Plaister or Cole-Wort leaves once or twice a day, according as more or less Matter is discharged. This being done, the Distemper will gradually be produced; and it is usual for the following Symptoms to arise. About the eighth day after the Operation some Pustles begin to appear not unlike to those that are commonly seen in the distinct Kinds, a little Fever having preceded the Eruption and the other usual Symptoms, but more mild and gentle. As to the places where the Incisions are made, the 4th Day they grow red and are inflamed, on the 6th they tend to Suppuration and discharge an ichorous Pus. Indeed, about the time of the Eruption of the Pustles whilst the little Fever lasts the Ulcers discharge somewhat less; but after the Eruption, even until the Decline of the Pustles, the Pus increases daily and after that it again gradually diminishes, so that commonly in five weeks time the Ulcers are quite dried up. By how much the greater the discharge of purulent Matter is by these artificial Ulcers so much the milder will the Distemper be. In the general it is observable that the Small-pox procured by Inoculation are of the distinct Kind, for the most part void of Danger, that the Pustles are few in number, and pit very little. Very often, however, there follow after them Tubercles and Abscesses, some indeed but slight ones but sometimes very malignant ones, and exceedingly difficult of Cure. To prepare the Body for Inoculation a great many talk much of Bleeding, of giving Emeticks and Catharticks. But in truth, if the Person to be Inoculated has Youth on his side, is of a good habit of Body, and in Perfect Health, none of these things seem to be necessary. It is requisite only, that he take care to observe a temperate Regimen for some time before the Operation. When the Operation is performed the Person need not be kept under any strict Confinement, but may live pretty much after his accustomed Manner, excepting that it will be prudent to forbid him the eating any Flesh-Meat. When the Small-Pox are come out the same Regimen is to be observed as is usual in the distinct Kind, got in the common way; and if there be occasion for anything at all of Medicine, these procured by Art require the same Method of Treatment, as the benign discrete Small-Pox in the natural way."

The subsequent extensive diffusion of the practice of inoculation in this country was undoubtedly due in large measure to the labours of two brothers named Sutton and also of Adams and of Dimsdale, of whom the last named had a barony conferred upon him in commemoration of his having successfully inoculated the Empress Catharine of Russia. The Suttons—two brothers, Robert and Daniel, who lived at Bury St. Edmunds, Suffolk, and Ingatestone in Essex respectively—although not medical men, introduced, or rather revived, the greatly improved method of treating the patients under their

charge They were extraordinarily successful in the results which they obtained and, indeed, claim to have inoculated no less than 20 000 persons without losing one as the direct result of the operation. Acting on the instructions originally laid down by Sydenham for the treatment of ordinary small-pox—the form of treatment to which, by the way, his contemporaries obstinately refused their adherence—the Suttons adopted and caused their patients strictly to observe what was known as "the cooling treatment," a method much akin to that which appears to have been pursued with good results by the Turkish operators from whom Lady Montagu first derived the knowledge of the process of "engrafting." In the hands of Daniel Sutton, who became specially famous for his successful inoculations, "the great secret of his success seems to have consisted in his making one puncture only; exposing his patients much and often to a cool atmosphere; supplying them freely with refrigerant drinks; and restricting them to a spare diet." By attention to the mode of life and general treatment of persons undergoing the process, together with careful selection of the sources (preferably the primary vesicle) from which the virus was obtained, Adams indeed succeeded in gradually evolving a strain of virus of such tenuity as to produce in a considerable majority of instances nothing beyond a single vesicle at the original site of puncture. The general eruption typical of the disease as contracted in the ordinary manner was in these cases either entirely absent or represented by at most a very few secondary vesicles only. Although doubtless the extremely mild form of the disease thus artificially produced was none the less contagious, the visible effect produced so closely resembled the results then beginning to be known as following on the Jennerian process of vaccination that numbers of Adams's patients could hardly be persuaded that he had not, contrary to their desire, intentionally vaccinated rather than variolated them.

There has always been considerable controversy as to the efficacy of the process of inoculation in restraining the ravages of small-pox, the matter being rendered the more difficult since it is almost impossible to arrive with any accuracy at what may be thought of as the average death-rate of the natural disease which in pre-inoculation times is known to have varied greatly in different epidemics. If, as has been frequently asserted, the average mortality in natural small-pox may be taken as being one in five or six, and, on the supposition that in the majority of cases at any rate inoculation prevented subsequent invasion by small-pox, then it is quite evident that the process was of the utmost value to the persons inoculated.

The statement of the Suttons, already mentioned, that inoculation in their hands was unattended with fatal results is perhaps exaggerated, as may also be the declaration of Baron Dimsdale that in a series of 1500 cases no death had occurred. Nevertheless the records of the Small-pox Hospital for a series of years show that we shall not greatly err and shall indeed be probably within the mark if we accept Dr. Gregory's estimate of 1 death in 500 inoculations as approximately correct. There is, however, perhaps ground for suspicion that inoculations performed in the face of epidemic small-pox were more prone to be fatal than were inoculations undertaken when the disease was not prevalent. On the other hand, we must bear in mind that the general diffusion of inoculation brought under the influence of the disease, although possibly in a mild form, large numbers of persons who otherwise might probably have escaped infection.

It is, I think, hardly possible better to sum up the matter than in the words of Sir Thomas Watson: "The advantages of the practice of inoculation to the individual, supposing him doomed to have small-pox, were great and obvious; to the community at large they were very doubtful. It gave the undoomed individual for certain an ugly disease which was comparatively free from danger in exchange for the chances, on the one hand of contracting a very hazardous form, and on the other of escaping altogether from any form, of variola. We need not inquire which is the most eligible branch of this alternative; we know which was by most men actually chosen. But the practice of inoculation, by carrying the virus and the disease into every village throughout the length and breadth of the land, filled the country with contagion, ensured the disease to all who were subjected to the operation, and diminished to all who were not the chances of escaping it. No doubt the distemper was produced artificially in many more persons than would have caught it naturally had inoculation never been thought of, so that while the relative mortality—the percentage of death from small-pox—was lessened by this practice the absolute mortality was fearfully increased. Such at least is the judgment expressed by most who had thought and written on the subject."

VACCINATION.

It was during Jenner's apprenticeship to Mr. Ludlow, a medical man practising at Sodbury, near Bristol, that his attention first became directed to a belief, widely prevalent in Gloucestershire during the latter half of the eighteenth century, that those persons who in the course of their employment on dairy farms happened to contract cow-pox were thereby protected from a subsequent attack of small-pox. Although himself a native of Gloucestershire he does not appear to have been aware of the local tradition previously to joining Mr. Ludlow at Sodbury. It was while working here that his interest became aroused by a casual remark made by a young countrywoman who happened to come one day for advice and who, on hearing mention made of small-pox, immediately volunteered the statement that she could not take that disease as she had had cow-pox. On coming up to London in 1770 to finish his medical education Jenner entered at St. George's Hospital and became also a pupil of John Hunter, with whom he speedily became a great favourite. With Hunter he discussed the question of the protective power of cow-pox over small-pox, but the great anatomist does not appear to have attached much importance to the matter although subsequently on several occasions he referred to it both publicly and in private. In 1773 Jenner returned to his native village of Berkeley, where he commenced to practise as a medical man. The impression which had been made on him in his student days as to the possibility of obtaining protection against small-pox still persisted, becoming, indeed, stronger as time went on. It would appear, indeed, to have been ever present in his mind and at length he determined to put the matter to the test of direct experiment. It was not, however, until May 14th, 1796, which has been appropriately termed the birthday of vaccination, that he commenced actual experiments. On this day he vaccinated James Phipps, a healthy boy about eight years old, by inserting into two superficial incisions on his arms matter taken from a vesicle on the hand of Sarah Nelmes, a dairymaid, who had been infected while milking her master's cows. The result of this experiment, the details of which are so well known as to need no mention here, must have afforded Jenner the most lively satisfaction, confirming as it did what up to that time had been a pious opinion only. "But the most agitating part of the trial still remained to be performed. It was needful to ascertain whether he (Phipps) was secure from the contagion of small-pox. This point, so full of anxiety to Dr. Jenner, was fairly put to issue on the first of the following July." Variolous matter taken directly from a pustule was carefully inserted by several incisions, but no disease followed. Having succeeded in communicating cow-pox from one human being to another by implantation of the virus in the skin, the next step was obviously to attempt its transference to yet another subject and so on, if possible, through an indefinite series, in order to ascertain whether its protective power was thereby diminished. Through lack apparently of material Jenner's work was interrupted until the spring of 1798 when a simultaneous outbreak of cow-pox and "grease" afforded him the further opportunity he desired. A few months later he published his "Inquiry" in which were set out the results of his observations. The appearance of this work was the signal for an extraordinary wave of enthusiasm which spread so rapidly that within a few years only of Jenner's announcement a knowledge of his method of preventing small-pox had extended to almost every portion of the civilised world.

The experience of the past century, culminating in the definite pronouncement in 1896 of the Royal Commission on Vaccination, having fully justified the principle of Jenner as to the prophylactic power of vaccination, it may be of interest to determine what light pathology is capable of throwing on the relationship which may be thought of as existing between variola and vaccinia.

THE RELATIONSHIP OF VARIOLA AND VACCINIA.

Although it is clear from Jenner's writings that he believed vaccinia to be nothing more or less than "small-pox of the cow" his theory appears not to have received general support even in his own day, and from that time onwards the value of the practice of vaccination has by some been

impugned on the plea that inoculation of one disease, "cow-pox," could not be expected to exert any really protective influence against the ravages of small-pox, a disease supposed by them to be of totally different origin. And if the thesis of essential difference between these maladies were capable of demonstration no doubt the objection would be of considerable weight; for there exists but little well-authenticated evidence that the living virus of one disease is capable when inoculated into an animal of affording protection against the effects of inoculation of the virus of another and totally different disease, although no doubt when two different viruses are inoculated at nearly one and the same time the incubation period of one or other of them may be modified as to duration.

In his first paper Jenner, as has been said, advanced the thesis that small-pox and cow-pox are identical; but even at the present day controversy wages hotly around this question and it still awaits a definite solution. There can, however, be no objection to our speaking of vaccinia as "one with small-pox," since it matters little from our present point of view whether small-pox on its transference from man to the bovine animal becomes actually transformed or, as some would maintain, merely modified. During the long period which has now elapsed since the introduction of vaccination many observers have set themselves the task of attempting by experimental methods to solve the problem of the true relationship of variola to vaccinia. These attempts have all been directed to the possibility of giving rise to cow-pox by the introduction in one or another manner of the virus of small-pox into the system of the bovine animal. In the great majority of such attempts, which are vastly more numerous than is generally supposed, the results have been entirely negative, although so numerous have been the experimenters who from time to time have attacked the problem that the total number of instances in which an apparently successful result has been obtained is now considerable. As far as I am aware the first recorded experiments are those of Gassner of Gunzburg in 1801, who succeeded after no less than ten fruitless attempts in directly inoculating a cow with small-pox virus. The lymph thus obtained was employed for the vaccination of four children, from whom seventeen others were subsequently vaccinated. None of these exhibited any signs of small-pox. Viborg of Copenhagen, in 1807, is stated to have also been successful in variolating the cow. Basil Theile of Kasan twice (in 1836 and 1837 respectively) succeeded in inoculating the cow with small-pox matter and in vaccinating children with the lymph thus obtained. In the light of recent work on this subject his conclusions are of much interest. As stated by himself they are: (1) the so-called vaccine disease is not an eruptive disease peculiar to the cow, but it is produced in it by the transmission of human small-pox to it, and the man and not the cow, as has hitherto been thought, is the source of the disease; (2) the mild disease thus caused in the cow can by direct transmission from the cow to man produce in him as mild a disease, which gives protection against the natural small-pox. Theile also described a method by which he claimed to have brought about such modification of small-pox virus as to render benign its action on the human subject without the intermediate stage of implantation on the tissues of the cow. This altered potency of the material was brought about, according to his statement, by first keeping the small-pox lymph for a period of ten days between two slips of glass, after which milk was added to it and the resulting mixture employed for the vaccination of children. The same process was carried through with the lymph obtained from the first and following series of children vaccinated, until after ten generations addition of milk was found to be no longer necessary.

Seeing that at this date (1836–38) true cow-pox was so much more widespread than at present, that at the commencement of the century Jenner confidently looked forward to its occurrence every year, and that in consequence the majority of milch cows were liable to become infected at one or another period of their existence, this empirical method of Theile bears a curious and noteworthy resemblance to one of the methods proposed by Koch for the treatment of rinderpest. This consists in the injection into susceptible animals of a mixture composed of a small proportion of virulent blood diluted with a much larger quantity of serum obtained from an immune animal. Milk, of course, is merely an emulsion due to suspension of fatty particles in a fluid which may be regarded as blood serum, so that it is conceivable that milk obtained from a cow which had suffered not long before from cow-pox and had so become, for the time at any rate, immune, might so far modify small-pox lymph added to it as to produce some such effect as noted by Theile when the mixture was used for purposes of inoculation. I have been unable to find any records dealing with a repetition of these experiments, but it would be interesting to make investigation into the possibility of producing a similar lessening in virulence of small-pox lymph by admixture with the blood serum of a calf which had been vaccinated some few weeks beforehand.

Ceely, in February, 1839, inoculated three sturks with variolous lymph, with the result that in two of the three he eventually obtained in due course what he considered to be vaccine vesicles. From these, lymph stocks were established which at one time came into such extensive use that in the course of a few months at least a couple of thousand children had been vaccinated therefrom. In his paper recording these experiments he states that on former occasions, even though working purposely at different times of the year, he had altogether failed in attempts to variolate the cow. In order to test the measure of protection afforded to these children by his variola-descended lymph Ceely tried on a number of them the effect of subsequent inoculation at varying intervals of time from their vaccination. In no case did he obtain any greater result locally than on the authority of Willan is known to have attended the test inoculations employed by Jenner and Woodville.

Unfortunately, owing to the particular methods used by Ceely in his variolous inoculations of cows some doubt is thrown on the value of the results obtained by him. He was, according to his own account, working simultaneously with both variolous and vaccine lymph, so that it is difficult to exclude the possibility that his instruments may have unintentionally served to convey the infection of both diseases at one and the same time.

Several years before the commencement of his inoculation experiments Ceely had made trial of a method originally employed by Sonderland of Barmen (1830), who claimed to have infected cows with the contagion of variola by way presumably, of the respiratory tract. This he did by enveloping them in blankets taken from the bed in which a patient had died from small-pox and by hanging other blankets similarly infected around the head of each cow in order that the animal might breathe in the "effluvium" arising therefrom. It is stated that these cows subsequently manifested symptoms of cow-pox and that from this source lymph was obtained and used on the human subject with the result that typical vaccine vesicles were produced. Ceely failed, however, in his attempt to bring about infection in similar fashion, as, indeed, have numerous observers in various parts of the world. Yet Ceely has himself recorded an occurrence observed by him in 1840 which, although apparently but little known, is of interest in this connexion. He relates an instance in which five out of eight milch cows sickened with cow-pox within twelve or fourteen days of their having been seen to be licking over a quantity of flock from the mattress on which a patient had died from confluent small-pox and which had been spread out in a field for purification. Careful inquiry at the time appears to have left no doubt that the animals, which had been on the same farm for a considerable period, were in good health at the time of their admission to the meadow in which the bedding was exposed and also that there had not been any other case of cow-pox in the neighbourhood. The fact that all the animals became affected simultaneously and after a period corresponding to the usual incubation period of variola certainly affords some reason for the assumption that the outbreak owed its origin to the animals being exposed to the "effluvium" from the infected bedding. It is, of course, possible that infection by way of the digestive tract may have been a factor also in this case, since Chauveau and other observers have shown experimentally that such result may be possible, a number of cases having now been recorded in which vaccinia has been communicated both to the human subject and also to the lower animals by the ingestion of vaccine lymph or powdered vaccine crusts.

There surely has seldom been so indefatigable a repeater of experiments as Badcock, the Brighton chemist, who during a period of about twenty-five years performed more than five hundred variolous inoculations. In December, 1840, Badcock, who had commenced his work without knowledge of Ceely's slightly earlier work, first succeeded in variolating a cow from which he carried on a stock of what was indistinguishable from genuine vaccine lymph. Although he

subsequently met with similar success on no less than thirty-seven separate occasions, the difficulty and uncertainty of the work will be appreciated on consideration of the fact that those experiments which eventuated in success represent but 7 per cent. of the total number. The lymph obtained by Badcock as the result of his variolation experiments has been largely employed; he supplied it to hundreds of medical practitioners and many thousands of children are said to have been successfully vaccinated with it. About twelve years (1852) after Badcock had obtained his first successful result two American physicians, Adams and Putnam, were equally fortunate and were able in consequence, as reported at the time in a Boston daily paper, to furnish all the vaccine matter requisite for use in the city and neighbourhood.

In 1865 a commission appointed by the Society of Medical Sciences at Lyons, having Chauveau as its head, reported the results of a comprehensive series of experiments carried out by it during the two preceding years, the results of which were completely at variance with those obtained by previous investigators. These results have been admirably summarised in the Report of the English Royal Commission on Vaccination. "Inoculation of the cow or heifer with small-pox matter in any one of the thirty animals used did not give rise to a vaccine vesicle; nevertheless a definite result was obtained, in the form, however, not of a vesicle, but of a thickening and inflammation of the wound. When a puncture had been made this became a papule; lymph squeezed from such a papule and inserted into a second animal gave rise to a like papule, and this, again, might be used for a third animal, but often failed, and the effect could, in no case, be carried on through more than three or four removes. When the inoculation was repeated on an animal on which a previous inoculation had produced such a papule no distinct papule was formed; and, moreover, lymph squeezed from the seat of the latter inoculation produced no effect at all when used for the subsequent inoculation of another animal. There is evidence that the development of the papule was the result of the specific action of the virus. This inference is strengthened by the fact that no such papule was produced by the Lyons Commission when the small-pox matter was inserted into an animal which had previously had cow-pox naturally or artificially, as well as by the fact that when an attempt was made to vaccinate, with vaccine lymph of proved efficacy, an animal on which a papule had been so developed by inoculation with small-pox matter, the vaccination failed, though the animal had never had natural cow-pox or been vaccinated. The specific nature of the lymph of the 'Lyons' papule is held to be shown by the fact that such lymph, when used on the human subject, gave rise to small-pox. On the other hand it has been urged that in this case the virus producing the effect was simply the original small-pox matter used in the inoculation producing the papule and still clinging to the wound. This, however, is considered to be disproved by the experience that lymph from a 'Lyons' papule of the second remove also gave rise in the human subject to small-pox. Thus Chauveau and his Commission found that small-pox implanted in the bovine animal gave rise to a specific effect which was not cow-pox but was of the nature of small-pox, though its manifestations in the cow were different from those of small-pox in man."

A few years earlier, in 1860, Martin of Boston, U.S.A., appears to have had a somewhat similar experience, as about fifty persons vaccinated by him from vesicles raised on a cow's udder by inoculation of variolous matter taken from a pock on the body of a man who had died from the disorder were nearly all attacked with small-pox and three died.

Voigt, the director of the Hamburg Vaccine Establishment, in 1881 brought into extensive use, not only in Hamburg but also in other parts of Germany, a strain of lymph of variolous origin. In the early summer of that year he inoculated three calves with lymph obtained from a case of small-pox. In two of these the operation was apparently unsuccessful, in view of which it is of interest to note the fact that all three calves were afterwards found to be insusceptible to vaccination. In the third calf a single vesicle appeared on the site of one out of five incisions made on the left side of the perineum. Voigt adds, however, that this same animal had been vaccinated in one small place in the right hypochondrium (for what reason is not obvious) and that at this point a normal vesicle developed. Voigt does not consider that this fact invalidates the apparent success of his experiment, for the reason that, as he says, the lymph derived from what he considers as the variolous source, proved to be more potent as regards its observed effects on children and calves than the Beaugency vaccine lymph which he had in current use at the time his experiment was carried out. Both Chauveau and Berthel have, on the other hand, expressed the opinion that Voigt's variolo-vaccine is merely a continuation of the strain of animal vaccine previously employed in Hamburg.

In 1885 Dr. Simpson succeeded in an attempt to inoculate a cow with small-pox lymph obtained from a young vaccinated girl, but as far as I am aware he did not publish the details of this experiment at the time. Dr. Cory, to whom Simpson sent points charged from the cow on the sixth day after inoculation, has recorded the results following on their use in his recent volume on "Vaccination." Three days after receiving the points Dr. Cory employed them at the Animal Vaccine Establishment, Lamb's Conduit-street, for the vaccination of a young male calf. Three out of five insertions made with the lymph resulted in vesicles indistinguishable from those produced by the current lymph of the establishment. A second calf and also a child were therefore vaccinated from the first calf with successful results in each instance, although in the calf only six vesicles resulted from seventeen insertions of the lymph. From this calf a continuous series of calf vaccinations were carried on during a period of six months. With the lymph obtained from these animals, 79 in number, no less than 1247 children were vaccinated, 1174 of whom afforded an insertion success of 98·4 per cent.

Some years later (in 1892) Dr. Simpson, then resident in Calcutta, was again successful in raising a stock of vaccine lymph of variolous origin. Lymph was taken from a small-pox patient on the fifth, sixth, seventh, and eighth day of eruption and each day a young calf was inoculated, the animal having been taken into the small-pox ward for the purpose. The inoculations with the three later lymphs were unsuccessful, but the first calf showed on the sixth day of inoculation three papules on the abdomen and in the groin at points where no punctures or incisions had been made. These on the following day had developed into vesicles. Two of the incisions and one puncture also contained lymph. On the sixth day lymph was taken (whether from vesicles, incisions, or puncture, or all three, is not clear from Dr. Simpson's paper) for the inoculation of another calf, from which, again on the sixth day, a child was vaccinated, the two insertions giving rise in due course to vesicles. From this child the strain of lymph was carried on successfully through nine generations, and Dr. Simpson remarks that each child showed splendid vaccine vesicles, much more typical in every respect than those obtained from the lymph which had been previously in use.

In 1886 and 1890 Fischer, the director of the Institute for Vaccination at Carlsruhe, obtained two strains of variolo-vaccine as the result of inoculation of calves with human small-pox lymph. In the first series Fischer inoculated a young female calf which he took into the small-pox ward of the Pforzheim Hospital for this purpose. Typical vaccine vesicles had developed on the sixth day, the lymph from which was carried on through twelve generations in the calf, after which it was successfully employed for the vaccination of children. Fischer states that the initial experiment of his second series was carried out in the Carlsruhe Institute, but that the animal was placed in a separate stable and that every precaution was adopted to secure freedom from vaccine contaminations. In this calf directly inoculated with small-pox lymph he again obtained, as in his experiments of four years previously, a vesicular eruption having the characteristic appearance of ordinary vaccinia. With lymph taken at the third remove from this calf he vaccinated his own grandson with complete success, and the strain which has now been continued through a very large number of animals has now been brought by Fischer into general use.

Surgeon-Major King, in 1889, being then stationed at Madras, inoculated a young bull-calf with fifth-day small-pox lymph obtained from a child suffering from the disease. On the eighth day after the inoculation a crop of vesicles made their appearance, not at points of insertion, but some little distance away, from the lymph obtained from which another calf was then inoculated. In this calf again secondary vesicles appeared, but in addition vesicles also formed at each point of insertion of the lymph. The lymph stock was carried on through three more generations in calves, the vesicular eruption being now in each instance strictly localised to the points of insertion. With lymph obtained from the fifth calf of the series a number of children were vaccinated successfully. Dr. Simpson reports that from the stock thus established by Surgeon-Major

King 4240 British and native soldiers have subsequently been vaccinated and also a very large number of the native civil population with most gratifying results, the percentages of success being much above that obtained from the lymph previously in use. For reasons which are unknown to me Surgeon-Major King's investigation appears to have been regarded with disfavour by the Government of Madras, by whom he was ordered back to his regiment and deprived of his special emoluments. Subsequently, however, this injustice was repaired by the reinstatement of Surgeon-Major King in his former position as Director of Vaccination in the Presidency.

In May, 1892 Dr. Hime published the results obtained by him in a single experiment on variolation. The lymph employed for inoculation of the first calf was collected from a semi-confluent case of small-pox in a previously vaccinated woman thirty-seven years of age. No details are given as to where the experiment was conducted, but presumably it was the private establishment from which Dr. Hime supplies vaccine lymph, as he makes the statement that "the calf was placed on the ordinary vaccination table used for these animals." A number of skin incisions were made, into which the variolous lymph was inserted. Of these incisions all subsequently healed, being on the sixth day only "detectable to the touch by a slight roughness"; several "pocks," however, developed at points, for the most part distinct from any of the incisions, and material taken from these on the ninth day of inoculation was employed for the direct inoculation of another calf. All the incisions made on this second calf had "taken" on the fifth day, when lymph was collected in tubes and pulp removed by scraping. Some of the latter made into "conserve" with glycerine was sent to Fischer of Carlsruhe, who obtained excellent results with it on a calf from which children were in turn successfully vaccinated. Dr. Hime also himself vaccinated a child with a capillary tube of the lymph in two insertions at each of which points a typical vesicle presented itself on the eighth day.

The largest amount of research work in this direction during recent years is that of MM. Haccius and Eternod (1893), of whom the former is the Director of the Swiss Vaccinal Institute at Lancy, Geneva, where the work was carried out. M. Haccius gives an account of no less than seven successful series of experiments, in each of which a strain of variolous lymph, obtained in the first instance from the human being, was carried on from calf to calf through, in some instances, as many as six or seven removes. The general result was that by the second or at the most the third remove the effect produced was altogether indistinguishable from that which we are accustomed to see in a calf that has been successfully vaccinated. With the lymph of the fifth or sixth remove a number of previously unprotected children were vaccinated with unfailing success. The resulting vesicles could in no way be distinguished from ordinary vaccination vesicles of equal age. The total number of animals employed in these experiments is not mentioned, but from certain statements in M. Haccius's publication one gathers that it was very considerable. It is obvious, therefore, that the Lancy experience as to the small proportion of success to failures is similar to that of other observers. It is worthy of note also that in those animals in which inoculation of variolous matter appears to have been attended with success no definite vesiculation was ever observed at the site of any of the punctures or incisions that were made. The usual result in the first remove from the human being was either a single vesicle or group of vesicular points on the site of a scarification or denudation of the skin. It is particularly stated that every precaution was taken, as, for instance, by the sterilisation of the lancet before each operation, to prevent the accidental transmission of vaccinia.

Dr. Klein, who in 1879 had obtained in thirty-one trials what then appeared to be mere negative results, renewed his investigations in 1892, employing now calves for inoculation experiments instead of milch cows, as in his earlier attempts. Having procured at the hospital ships off Dartford lymph from the vesicles of two cases of confluent small-pox, one at the sixth and the other at the seventh day after appearance of the rash, this lymph was on the same day inoculated by linear cutaneous incisions on two calves at the Brown Institution. The inoculation of one of these calves afforded no indication of success, but on the other calf he obtained a local result in the groin, which, however, consisted not of a distinct vesicle but merely a thickening and redness together with a linear crust at the site of certain of the incisions into which small-pox lymph had been introduced. Lymph pressed from the thickened wound when inoculated into a second calf produced also by the fifth day a like but rather more marked result, while the thickening and redness still further increased as the process was repeated in a third and fourth calf. In none of these animals was there any appearance of vesiculation. At this stage the fourth calf of the series was removed to Lamb's Conduit-street, where Dr. Cory, with material obtained by clamping and scraping the thickened incisions, on the seventh day vaccinated an infant in five separate insertions with complete success. Each of these presented on the eighth day appearances characteristic of vaccinia. Moreover, Dr. Cory, who kept the child under observation from first to last, was unable to detect in the course of the disorder any deviation from the condition of affairs normal to vaccinia. "Crusts" from the arm of this child were preserved and utilised after being mashed up in sterile salt solution for the retro-vaccination of another calf. In due course there resulted in about half of the total number of incisions vesiculation of a character not to be distinguished from that current in the calves vaccinated in the ordinary course at the Lamb's Conduit-street station. Finally, after a lapse of six weeks, Dr. Klein submitted this retro-vaccinated calf and other calves vaccinated from it to the test of a further and thorough vaccination with current calf lymph and with the result that all these animals entirely resisted vaccinia. I have learnt privately from Dr. Klein that in his former (1879) experiments on cows he in more than one instance obtained results somewhat similar to those witnessed in the calf on which his more recent successful inoculation was performed. He suggested at the time the advisability of attempting a transference to a second animal, but Ceely, who was superintending the experiments, insisted on the necessity of obtaining a vesicle in the first animal inoculated as the only criterion of success and the suggestion was therefore overruled. For his own satisfaction, however, Dr. Klein endeavoured to vaccinate one of the cows which had shown some local reaction, but entirely without result, the animal apparently being immune.

Of my own experiments the most successful series may briefly be described as follows: with variolous lymph (contained in two capillary tubes) taken on July 30th, 1892, from a vaccinated girl, aged sixteen years, at from the fifth to the sixth day of the eruption of discrete small-pox I inoculated on Aug. 11th a cow-calf (A) about six weeks old by 32 linear incisions and 2 superficial scarified patches made on the abdomen. On Aug. 13th (the third day) this calf presented nothing but a slight scab over the scarified patch. On Aug. 15th (the fifth day) some of the incisions were somewhat red and elevated, more particularly at several definite points which tended to be vesicular. At this date, on the inner aspect of each thigh and distant in each instance from incisions or scarifications, was a crop of shotty and incipiently vesicular pimples. On Aug. 17th (the seventh day), having clamped 3 of the incisions, including those with the quasi-vesicular appearance, I removed the lymph with the crusts by scraping and used the material for the inoculation on this date of calf B. The accessory incipient vesicles I left untouched. From first to last calf A never exhibited any appreciable rise of temperature or indisposition of any sort. On the ninth day the linear incisions, the cross scarifications, and the accessory vesicles of calf A were in their decadence and in a few days more the whole process was at an end. More than a month later—namely, on Sept. 22nd—I vaccinated this calf A in 23 linear incisions with calf lymph obtained from the Animal Vaccine Establishment. The result was absolutely negative.

On Aug. 17th, with the scrapings obtained the same day from calf A, I inoculated a cow-calf (B) two months old in 56 linear incisions on the abdomen. On the third day every one of these incisions was distinctly raised and bordered by a delicate pink flush. On the fourth day (Aug. 20th) all incisions had evidently taken, the areolæ about each being now well marked and about one-eighth of an inch in width, but there was no definite vesiculation. At this date, after clamping, scrapings were taken from certain of the incisions for further experiment. No accessory vesicles appeared in this calf, which, along with calf A, was vaccinated on September 22nd in 17 linear incisions with calf lymph obtained from the Animal Vaccine Establishment. The result, as in calf A, was absolutely negative.

On Aug. 20th, with scrapings taken the same day from calf B, I inoculated a small cow-calf (C), seven weeks old, in 27 linear incisions on the abdomen. On the

fourth day (Aug. 23rd) every incision had "taken" and in most of them there was evidence of commencing vesiculation. Two days later (Aug. 25th) vesiculation was distinct in several of the incisions. At no time were there any accessory vesicles. This calf also was vaccinated (Sept. 22nd) with calf lymph from the Animal Vaccine Establishment. Again the result was altogether negative.

Thus far I have obtained an undoubtedly successful result in one series only out of four attempts, but I have at any rate been able to satisfy myself that it is possible to variolate the calf, and, further, that the result obtained in the first instance may become greatly modified in the course of successive removes; and, again, that animals which have been thus treated are no longer susceptible to vaccination.

I may, perhaps, mention here that all my experiments were conducted at the Brown Institution to avoid any possibility of contamination with vaccinia; that, as a further precaution, new scalpels were used, which were invariably first carefully sterilised in a flame; that before and after use the table was thoroughly washed with carbolic acid and hot water and during the intervals of use kept exposed to the open air.

The Royal Commission on Vaccination, in the section of their report dealing with the question of the relationship of variola and vaccinia, shows that the various series of inoculation experiments, of which I have given a brief account, fall into one or other of three categories. The first category includes the experiments of Thiele, Ceely, Badcock, Voigt, Haccius and Eternod, King, Simpson, Hime, and others. In these experiments "inoculation of small-pox matter into the udder or adjoining parts of the bovine animal gave rise at or near the site of inoculation to a vesicle either identical in visible characters with the ordinary vaccine vesicle produced by inoculation with the matter of cow-pox or to a vesicle the features of which, while not corresponding wholly with those of a perfect vaccine vesicle, so closely resembles it as to justify the recognition of the vesicle as a vaccine vesicle. Also it includes experiments in which, though the local result had not the characters of a perfect vaccine vesicle, yet lymph from it when carried through a second or third remove in the cow or calf presented results fully manifesting those characters and when again transferred to man gave results indistinguishable from the ordinary vaccine vesicles." In the second category are placed the experiments of Dr. Klein and myself. In no instance did either of us obtain any appearance of vesiculation in the animals directly inoculated with small-pox virus, although the appearance of the eruption tended to resemble more and more that typical of vaccinia the further the remove, through a series of calves, from the original strain. In the third category are included the practically negative results of the Lyons Commission obtained by Chauveau and his fellow-workers. A brief account of these has already been set out.

With the exception, then, of Martin and of Chauveau and his colleagues of the Lyons Commission all the observers mentioned claim to have obtained positive results—in a certain number of their experiments at any rate—as regards the production of typical vaccinia after one or more removes as the result of variolation of the cow or calf. By no one, apparently, has success been attained invariably, but it is among the experiments of the earlier observers especially, who made use for the most part of heifers and milch cows, that the largest proportion of abortive attempts are to be met with. Subsequent experience has shown that success is much more likely to be attained if calves be used instead of heifers or cows. In this way, perhaps, Chauveau's somewhat anomalous results may be in part explained.

With reference to recent experiments on variolation of the calf it is worthy of note that, as previously mentioned, different observers have obtained local effects in that animal which in different calves of a series have varied considerably. The final result has, however, after a greater or less number of removes from calf to calf, been invariably the same—namely, a local vesicle is produced which by no means at our command, such as the appearance and course thereof or the protective power of the lymph derived therefrom, is distinguishable from true vaccinia.

Although practically there is unanimity of opinion among those who have worked at this subject it must be confessed that, seeing the conditions under which they were carried out, many, particularly of the earlier experiments, are of little worth. Some of the main objections are based on the fact that experiments on this subject have almost without exception been performed in establishments devoted to the continuous cultivation of vaccinia, on the use concomitantly of vaccine and of variolous lymph on the same animal, and on the want of care as to the cleanliness and freedom from vaccine contamination of lancets and "points" used in the experiments. Objection of similar sort against the variolations of the calf which have been achieved in recent years is hardly valid. In some of the more recent cases, at least, special precautions have been taken to ensure that the instruments and table were sterilised and to render the environment of the animal such as to afford no likelihood of the communication of vaccinia. Most especially was this so as regards Dr. Klein's investigations and my own. The number of successful cases which have been recorded is now so large that it is difficult to believe that sources of fallacy of the above sort should have been present in every instance, and it is therefore well-nigh impossible to resist the conclusion that a change of small-pox into vaccinia must really have come about.

Nevertheless there are found even at the present day those who, like Juhel and Dupuy (1894) and Layet (1895), maintain the essential duality of variola and vaccinia. It is, however, difficult to understand how the results obtained, by the last-mentioned especially, can bear the interpretation he would place upon them, seeing that he obtained as the result of inoculating heifers with small-pox lymph a vesicular eruption, the lymph derived from which reproduced the disease on other heifers. Moreover, subsequent vaccination of all his series of animals was either abortive or wholly without result.

Hervieux (1895), the director of the Vaccine Institute attached to the Académie de Médecine, takes up a similar position to that of Layet and his collaborators, Le Dantec and Benech. He asserts that the only point of similarity between variola and vaccinia which has been brought forward by those who believe in the relationship of these disorders is the likeness between the vesicles which are found in either case and denies that this point forms any argument in favour of their identity. He also considers that the use of lymph of variolous origin is fraught with danger, and so doubtless it may be when that employed is derived—as in Chauveau's and Martin's cases, for instance—directly from the animal first inoculated.

If, as I believe, it can be conclusively proved that small-pox lymph, by passing through the system of the calf, can be so altered in character as to become deprived of its power of causing a generalised eruption, while inducing at the site of inoculation a vesicle indistinguishable from a typical vaccine vesicle, and, more important still, if it be shown that when transferred again to man it has, by such treatment, completely lost its former power to produce a general disease, it may fairly be asserted that cow-pox—or rather that artificially inoculated form of the disease which we term vaccinia—is nothing more nor less than variola modified by transmission through the bovine animal. Perhaps the most reasonable interpretation of such results may be that small-pox and vaccinia are both of them descended from a common stock—from an ancestor, for instance, which resembled vaccinia far more than it resembled small-pox. It is conceivable, indeed, that the seeming vaccinia obtained in the calf by inoculation of small-pox matter into that animal may, after all, be but a reversion to an antecedent type; and in this connexion we may call to mind a fact of universal experience—namely, that vaccinia, however it may have arisen in the past or is made to appear in the present, exhibits little tendency to "sport" (as, for instance, by manifesting a "generalised eruption") in the direction of small-pox.

Mr. Picton and Dr. Collins, in their addendum to the report of the Royal Commission on Vaccination, lay much stress on the want of "evidence to show that inoculation of the pox of the cow on the human skin has ever produced small-pox." Variola and vaccinia may, nevertheless, have a common ancestry, since it is not unlikely that variola may have departed widely from the original type and have gained an exalted virulence by repeated passage through man under conditions favourable to its propagation and activity. If this evolution of the disease has, in fact, taken place variola may have suddenly reverted under greatly changed conditions (as, for instance, implantation on the bovine animal) to an ancestral type. But the reverse process—i.e., sudden "sport" of vaccinia in the direction of small-pox—is not to be expected. It is most unlikely that a less differentiated form (cow-pox), also emanating from the common ancestral stock, should attain to the most exalted virulence in a single individual and *per saltum* declare itself as small-pox, as the dissentient Commissioners insist that it ought to do.

DETAIL IN SURGERY.

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I.—OPERATIONS FOR HÆMORRHOIDS.

MY life as a surgeon has been long enough to have seen nearly the whole series of methods by which hæmorrhoids have been dealt with—in modern times, at any rate.

In the earlier operations nitric acid was employed and was applied, without anæsthetic, manacles, or Clover's crutch, to hæmorrhoids protruding from the anus as a result of straining over hot water in a night commode. As an improvement in the nitric acid method I was taught by my father to introduce into the rectum one of Weiss's dilators of the female urethra and then after this preliminary step to apply the acid to the diseased portion of the anal canal whilst thus dilated. Two advantages were gained by this modification: firstly, the freedom of the surgeon from dependence upon the goodwill of the hæmorrhoids for their convenient extrusion; and, secondly and mainly, the thorough dilatation of the sphincter, with its security against subsequent spasmodic contraction upon a mucous membrane which was often both protruding and cauterised. This plan was probably a reaction from an older method of ligature in which the strangled piles had to slough off and which not rarely ended in pyæmia.

My next stage of experience was with Smith's clamp and cautery. To this I held for some years, but the method did not entirely satisfy me, as occasionally there was bleeding into the rectum from the seared stump. About this period my colleague Mr. Walter Brown returned to Leeds as resident surgical officer to the infirmary. He told me of the operation in use at the South London Hospital, where he had recently filled a similar post, in which the hæmorrhoid was transfixed at its base, very firmly tied, and cut away close to the ligature. I thenceforth adopted the plan and made use of it until it was superseded in my practice by what I consider to be the far more satisfactory operation which I have now to describe. To this operation, which I have now used exclusively for the last fourteen years, I was led by four main considerations. 1. The manner in which hæmorrhoids present themselves externally, becoming as accessible as any ordinary growth or tumour on the surface of the body on dilatation of the sphincter, a step I had from a very early time been accustomed to take as a preliminary to all operations on the lower part of the rectum. 2. The method of Coates, which had much impressed me. It consisted in clamping the hæmorrhoid, in cutting it off close to the clamp, and, as a final stage, in closing up the raw edges and bleeding surfaces by ligatures with the clamp still *in situ* instead of arresting the bleeding by cautery. 3. The establishment of a further extension of excision of hæmorrhoids by Whitehead of Manchester, who proposed the complete excision of the anal ring of hæmorrhoidal mucous membrane, the bleeding being controlled by ligature and the union of the divided margins being attained by suture. 4. The development of the convenient volsella forceps which I had devised for holding down the os and cervix uteri when dilating and curetting the uterus and which command a complete mastery over the hæmorrhoids during excision. These four considerations chiefly influenced me in deciding to depart from the procedures in vogue at the time.

Let me now give a description of the details of the operation itself: 1. Believing dilatation of the sphincter ani to be, along with tooth-drawing and reduction of dislocation, the kind of proceeding in which chloroform is attended with more than its usual risk *I would urge ether emphatically as the anæsthetic.* 2. The lithotomy position, maintained by manacles and Clover's crutch. 3. Commence, as a matter of course, by dilatation of the sphincter ani, which not only brings the hæmorrhoids into view but is a security against spasmodic disturbance of the wound subsequently to the operation. 4. Grasp the most prominent hæmorrhoid at each extremity by a volsella forceps and hold it securely during the operation. This gives the surgeon perfect command both during excision and whilst completing the operation by suture. 5. Excise the hæmorrhoid with curved scissors by marking out and partially dissecting off a shallow flap, firstly, on the mucous membrane side and then on the cutaneous side and then excise the hæmorrhoidal mass. 6. Having tied any obviously pulsating vessels, bring the two sides of the wound together by continuous suture in the following manner: commencing about ½ in. from one end, let a continuous suture of fine catgut be passed rather deeply so as to bring the whole surface of the wound together and to control any oozing that may be taking place. Terminate this suture about ½ in. from the other end of the wound but neither tie it nor fix it anywhere. On the contrary, secure it for the time being only by clip forceps, after having drawn it tightly enough to stop all hæmorrhage. 7. In like manner deal with a second or even, if necessary, a third hæmorrhoid, taking care to leave about ½ in. of mucous membrane between each wound. 8. Finally, remove the clips from the sutures, which are then cut, leaving about 1 in. protruding at either end. 9. As a rule the sutures disappear and do not need removal. If they do not they can be pulled out without difficulty at the end of a few days, having no fixed point. 10. The after-dressing is practically *nil.* Some cotton wool is placed between the buttocks to absorb any oozing of blood or serum, but *no lint or other dressing is introduced into the anus.* This is absolute and *de rigueur.*

Advantages claimed for this method.—Having had many years' experience of nitric acid, of clamp and cautery, and of tying with excision, whilst I have had fifteen years' experience of the method just described, I feel that I may claim for the latter the motto, "Cito, tuto et jucunde." *Cito,* if not in the actual operation, at any rate in rapidity of recovery; *tuto,* in the absolute security against hæmorrhage and the increased security against septic accidents—not unknown in the old days of ligature—owing to healing by first intention; and *jucunde,* by reason both of the lessened after-pain and of the greatly reduced tendency to retention of urine, the after-pain being often capable of being reduced to insignificance by very careful soaking of the wound before stitching by a strong carbolic solution (1 in 30).

I am told that retention of urine is common, indeed, almost expected as a matter of course, where hæmorrhoids have been removed by ligature or by cautery. It is comparatively rare after the operation I have been describing, which has also the advantage over Whitehead's of being free from the risk of subsequent cicatricial stricture and is at the same time equally applicable to any degree of hæmorrhoids, however extensive.

One may ask how it came about in former days that cautery and ligature were used and not excision. Purely, I believe, from fear of hæmorrhage after operation, for in days when dilatation of the sphincter as a preliminary to removal of hæmorrhoids was practically unknown and efficient volsella forceps for holding the cut surface in view were uninvented the danger was a very real one. An open wound with a bleeding vessel inside a rectum guarded by a contracted sphincter used sometimes in those earlier days to produce a hæmorrhage at once dangerous and concealed. It was to meet this evil that ligature of the whole hæmorrhoid, destruction by nitric acid, and the method of clamp and cautery were invented. But now that we dilate the sphincter, that we have means of holding any amount of hæmorrhoid in view, that we arrest the bleeding of visible vessels by catgut ligature, and can bring the cut surfaces into firm apposition by a suture which either is absorbed or can be pulled away after a few days, the need for these more primitive details seems to have not only lessened but entirely disappeared.

Leeds.

A METHOD OF PROLONGING NITROUS OXIDE ANÆSTHESIA IN DENTAL PRACTICE.[1]

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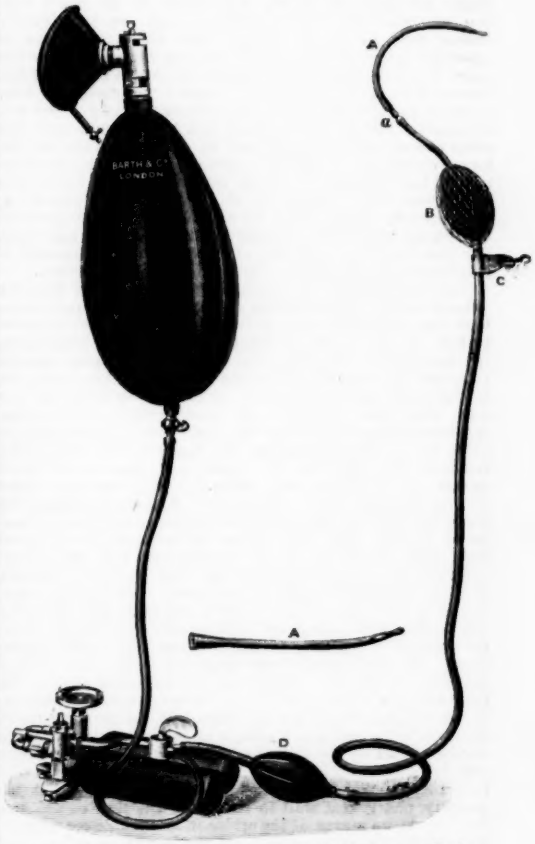
ASSISTANT ANÆSTHETIST TO THE DENTAL HOSPITAL OF LONDON.

ANÆSTHETISTS are agreed that nitrous oxide would be a perfect anæsthetic for dental procedures but for the brevity, after the removal of the face-piece, of the available anæsthesia produced by its inhalation. Hitherto, therefore, only operations of the shortest duration could be attempted where nitrous oxide has been employed, while in those cases

[1] A paper read before the Society of Anæsthetists on March 17th, 1898.

requiring an anæsthesia of two to three minutes' duration the nitrous oxide has to be in the vast majority of cases supplemented with the use of ether. Since, however, ether is so liable to be followed by unpleasant after-effects, is so pungent in odour that it clings about the operator's room all day, and since so much preparation of the patient is necessary before the drug can be administered, it is often deemed advisable to perform the operation at the patient's own house in order to minimise these many disadvantages. With nitrous oxide, however, we have practically none of these drawbacks. After-effects, if present, are of such a transient nature that a patient can walk home comfortably within a few minutes of the administration; the gas is without odour and is not unpleasant to inhale; and, moreover, little or no preparation is necessary prior to its inhalation. It is obvious, therefore, that if an anæsthesia of several minutes' duration, after the removal of the face-piece, can be obtained with nitrous oxide, by whatever means, this agent will be used with increasing frequency, and that it will only be supplemented in those cases where an unusually prolonged narcosis is required, as, for instance, in extensive immediate torsions, regulations, and multiple extractions. Up to the present time the means adopted for prolonging the anæsthetic effect of nitrous oxide have been very imperfect, being based for the most part upon the principle of preventing the elimination of the gas, thereby obtaining merely a slightly prolonged anæsthesia; but by preventing this elimination we must prevent or impede respiration also. Such methods, for instance, as pushing backward the lower jaw together with the tongue, thereby closing the orifice of the larynx, or by passing a sponge upon a holder backwards and downwards into the pharynx, produce very marked congestion and cyanosis, with jactitation—in fact, the signs of impending asphyxia. The patient under these circumstances is in a dangerous condition; there is great engorgement of the venous system and right side of the heart, and should there be present any degree of valvular cardiac disease the heart muscle might be unable to cope with the extra strain thrown upon it and the administration might possibly terminate fatally. In almost every reported case of death occurring during the exhibition of nitrous oxide it has resulted from obstructed respiration and consequent asphyxia. We are always very careful, therefore, when administering the gas to patients suffering from valvular disease of the heart not only to ensure perfect freedom of respiration, but also to allow a due admixture of air or oxygen, in order that all jactitation, cyanosis, and cardiac engorgement may be avoided. There is also another grave objection to this mode of prolonging nitrous oxide anæsthesia by preventing elimination, for, as pointed out above, it produces much congestion and cyanosis and this relieves itself locally by increased hæmorrhage from the gums and empty tooth-sockets, so that the patient's mouth rapidly fills with blood, whereby the operator is much hampered or even forced to abandon the operation, as there is not sufficient time for systematic sponging. Further, unless the patient's head be kept in such a position that the lower jaw and floor of the mouth form a sort of reservoir for the collection of this blood, it will gravitate backwards and at the first inspiration (which is always of unusual depth) it will probably be sucked into the air-passages, necessitating immediate tracheotomy to save the patient's life. It should always be our aim, therefore, to maintain the patient's head in the most convenient position for the operator consistent with the safety of the patient, but where the above methods are adopted the operator has to work in an unfavourable position, and thus the ultimate gain in time is practically of no value owing to the increased difficulties of the extractions.

The late Mr. Clover, aware of the advantages of obtaining a prolonged anæsthesia with nitrous oxide in dental surgery, made experiments with a "nose-piece," by means of which he hoped to continue the administration of gas and thus to prolong its anæsthetic action during operations on the mouth after the ordinary face-piece had been removed. To this end, when the patient was fully anæsthetised, he fitted over the nose a small accessory inhaler, to which nitrous oxide was supplied by means of a stopcock and tube communicating with a gasometer. He expected that sufficient gas would be inspired through the nose to maintain an anæsthesia already produced by the ordinary method and thus to enable the surgeon to undertake longer operations upon the jaws than could otherwise have been attempted except under the influence of ether. The results did not prove sufficiently satisfactory and Mr. Clover abandoned the idea. The apparatus was difficult to keep properly adjusted, so much air was breathed through the mouth that the anæsthesia was uncertain, and finally the gas could not be supplied at sufficient pressure to obviate this evil without being likely to cause damage to the olfactory region, the frontal or even the maxillary sinuses. Having found that prolonged administration of nitrous oxide for ordinary surgical procedures was attended with the best results, I attempted to devise a method whereby this anæsthetic could be employed in extensive operations in dental surgery, and I soon discovered that the only channel for the convenient administration of the gas after the removal of the face-piece was by means of a tube passed along the inferior meatus of the nose. First, a small-sized celluloid female catheter seemed to be the most suitable instrument for this purpose; but this was discarded owing to its rigidity, for a surprisingly large



A, Nasal tube; a, Vulcanite nozzle. B, Netted bag. C, Hook for fixing to head-piece of chair. D, Expansion bag.

number of patients are found to have a deviated nasal septum, an unusually arched palate, causing a corresponding curve of the floor of the inferior meatus, or much depressed inferior turbinated bones covered with hypertrophied mucosa which would be considerably damaged by the forcible passage beneath them of a rigid instrument. Next, a No. 7 (English) soft rubber male catheter was tried. This answers admirably, except that it takes longer to pass and is liable to be blown out by the pressure of gas supplied through it combined with the patient's expiratory efforts, and also on account of its flexibility it is more difficult to keep out of the operator's way without kinking. Lastly, a soft gum elastic silk tube was employed. This tube is equal in diameter to a No. 7 catheter; it is six inches in length and its distal end is made like an *à boule* male catheter. This is solid up

to the orifice, which is situated half an inch from the point, the proximal end being expanded to receive the conical attachment of tubing, in connexion with the portable steel cylinders in which the gas is usually stored. Two of these cylinders are connected up in the usual manner and fitted with a stopcock which has been made to my design by Messrs. Barth and Co. It is a tube of inlet to a stopcock chamber which is screwed into the cylinder connexion and lies in the space between the cylinders so as to be out of the way. This chamber is fitted with a two-way stopcock, the tap of which is an elongated broad arm, so that it can be easily turned by the foot. From the chamber lead two tubes of exit. The tap is so arranged that when it is turned on to either of the two exit tubes the arm lies over that tube through which the gas will flow when liberated from the cylinders by means of the ordinary foot-key. The whole gas supply can thus be entirely controlled by the administrator's foot. The exit tubes, like the other parts of the stopcock, are made of brass, are placed at an angle, and are an inch long, with bulbous ends so that rubber tubing can be easily slipped over them. To one is attached a Dr. Hewitt's gas inhaling apparatus; to the other the connexions of the nasal tube, which consist of the following:—A small stout rubber "expansion" bag, intended to regulate the usually irregular flow of gas from the cylinders. This is fixed by one end to a stopcock exit, the other extremity being connected by tubing to a thinner and large rubber bag covered with netting, which is continued as a small tube bearing a conical vulcanite nozzle, fitting into the funnel-shaped extremity of the nasal tube proper, A. This second bag is fixed by a hook to the head-piece of the dental chair and by noticing its degree of expansion the anæsthetist is enabled to tell whether his patient is getting a sufficient supply of gas to maintain anæsthesia.

The administration is conducted in the usual way until the patient has lost conciousness; then, taking the precaution that the ordinary gas bag is full, the stopcock having been turned on to it, and choosing the end of an inspiration, the face-piece is removed, the nasal tube is rapidly passed (this can be done during a single expiration), the face-piece is reapplied, and the stopcock is turned, so that the gas now only flows through the nasal tube; at this stage the inhalation is continued by both nasal tube and face-piece up to full anæsthesia; the face-piece is now finally removed, the operation is begun and narcosis is maintained by the nasal tube alone. To prevent the return of consciousness the "netted bag," B, must be kept fully distended, the gas being supplied at considerable pressure. In a typical case the patient is but slightly cyanosed and there is little or no jactitation (as he inhales sufficient air through the mouth and the free nostril), but the conjunctival reflex is absent. Should, however, he be of the type which requires but little gas, or if for any reason the mouth be considerably obstructed either by sponges or by the operator's hand, the nasal septum being at the same time markedly deviated towards the free nostril, the intake of air in proportion to the intake of gas is so lessened that deep cyanosis, jactitation, and even opisthotonos are produced. If, on the other hand, more gas is necessary to maintain anæsthesia the free nostril can be closed by the anæsthetist's finger or even the mouth can be partially obstructed by inserting a sponge. The extremity of the nasal tube is made to impinge on the posterior pharyngeal wall in order that the flow of gas may be directed by means of the orifice in its under aspect immediately over the upper opening of the larynx, therefore great care must be taken not to permit a very free supply of gas from the cylinder, as by so doing an over-dose would easily be administered.

With this apparatus I have succeeded in keeping patients fully anæsthetised for operations lasting over four minutes and have only then discontinued the administration because the operation has by that time been completed, and not because the anæsthesia could not be further maintained by this method. The tube has been employed in over 100 cases, in 2 of which the operation of tapping and draining the antrum of Highmore was performed and in 1 immediate torsion was exerted upon a lateral incisor tooth. But in a series of 30 consecutive cases of tooth extraction amongst patients of both sexes of which I have made notes the average period of anæsthesia was roughly 1 minute 50 seconds. These cases were chosen as suitable ones for the employment of the tube on account of the necessary extractions being very numerous or appearing to be of unusual difficulty and in only 1 case had the operation to be curtailed; in this case the hæmorrhage from the gums was so profuse that on this account, after 12 extractions, the operation had to be stopped as no sponges were at hand. The anæsthesia in this case lasted 2½ minutes. The tube is easily kept out of the operator's way by being slipped over and behind the patient's ear. There is no fear of conveying sepsis, for the tube can be sterilised with the greatest ease and in hospital practice I am in the habit of employing two, which are used alternately, so that one can be soaking in antiseptic solution while the other is in actual use. The nostril on the same side as that on which the anæsthetist stands is the more convenient for the passage of the tube, but as the nasal septum is not infrequently deviated to this side one is compelled occasionally to pass the tube along the opposite nostril. The only absolute contraindications to its use are marked hypertrophy of the nasal mucosa or adenoid growths in the naso-pharynx, in either of which cases troublesome hæmorrhage would result from injury to these tissues. Great care must be exercised in passing the tube so that it can be felt to impinge on the posterior pharyngeal wall, as it is easy to pass it too far and so to inflate the œsophagus and set up swallowing movements and vomiting. Even where due caution is practised vomiting seems to be less uncommon than in ordinary nitrous oxide anæsthesia and for this reason patients should be recommended to abstain from food for two or three hours before the administration. If this precaution be taken and one is careful also that the patient swallows no blood, unpleasant after effects will be very rarely met with.

In conclusion I claim for this apparatus that it will render the employment of ether unnecessary in dental surgery; that owing to its small bulk and great portability it is more convenient and economical as regards the quantity of nitrous oxide used than any other apparatus employed with the same object; and, finally, that in skilled hands it is free from the risk of damage to the nose, the naso-pharynx, or the mouth and is without danger to the patient.

Welbeck-street, W.

A CASE OF OVARIOTOMY IN WHICH A PRIMARY OVARIAN AND SIX OMENTAL DERMOID CYSTS WERE REMOVED.

BY J. LACY FIRTH, M.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE BRISTOL GENERAL HOSPITAL.

A WOMAN, aged thirty-eight years, was admitted under my care at the Bristol General Hospital on Sept. 18th, 1897, complaining of abdominal pain and swelling. She had been married fifteen years, but had had no children and no miscarriages. Menstruation had been regular with one exception throughout her married life. The exception was that she missed three periods a year after marriage. She had at that time a three months' illness, which she called "inflammation of the bowels." The pain then was chiefly in the right iliac fossa. A month before admission the patient had been suddenly seized with abdominal pain when walking in the street. It was in the hypogastric and left iliac regions chiefly. With the pain came abdominal swelling. The swelling had steadily increased since. Vomiting had been frequent and she had lost flesh and strength rapidly. Careful inquiry elicited that from time to time during some months before the onset of her present illness she had suspected that the lower part of the abdomen was enlarging. She had had diarrhœa also, though not severely, for three weeks. On admission the patient was sallow and greyish and she looked anxious. The temperature was 100° F. and the pulse was 95. The abdomen was symmetrically distended in the lower half from the symphysis to a level of 2 in. above the umbilicus. The distended region was moderately tense, very tender, especially in the left iliac region, dull on percussion, and yielded a slightly marked thrill when tapped. There was a corona of resonance around it in the flanks and epigastrium. It was central. A softish mass, slightly moveable upwards and downwards, was felt lying across its upper and front part. It was thought to be an adherent coil of intestine (probably it was the thickened omentum containing secondary dermoids).

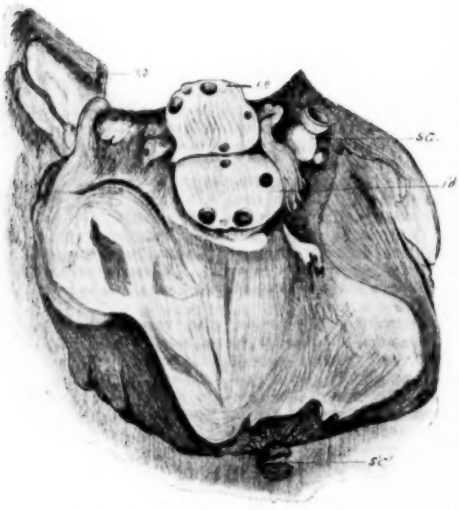
There were no signs of ascites. There was no trouble with micturition. Vaginal examination revealed a long conical cervix with nulliparous os. Through the anterior fornix the body of the uterus was felt in front of the swelling. On each side of the uterus there was a sense of tensity and fluctuation was detected bimanually. Through the mucous membrane of the right lateral fornix three small, hard, and conical eminences were felt, two close together and the other a little posterior in the same line. These bodies were quite fixed. They were felt with extreme distinctness. On rectal examination the same hard eminences were felt through the anterior wall. These hard eminences were regarded as dermoidal teeth, which they subsequently proved to be. The only other view which could be entertained was that they were fœtal bones. Against that view the history of regular menstruation and the absence of any signs of pregnancy or history of these signs or of spurious labour afforded strong arguments. It is not often that a dermoid tumour can be diagnosed with as much confidence as in this case. Six days after admission, the patient's condition having remained stationary, laparotomy was performed (Sept. 24th). Mr. J. Freeman kindly gave ether and Mr. Rayner and Mr. Druitt gave me much valuable assistance during the operation. The median incision which was made bled more than usual, perhaps by reason of the subjacent adhesions. There was some difficulty in defining the peritoneal cavity, the tumour being adherent to the parietes beneath the incision. A Spencer Wells trocar was passed into the cyst as soon as its anterior surface had been exposed and yellow, fatty-looking fluid immediately flowed through it. The cyst could not be pulled out of the abdomen in the least degree, owing to universal adhesions. To complete the emptying the trocar aperture was enlarged and the patient was turned on her side for the fluid to escape through the rent. A mass of hair and sebum of the size of a bantam's egg was removed with the finger. Then the separation of the cyst wall was begun. The hand was freely and frequently inserted into the cavity of the cyst for the purpose of defining its wall. Deep down in the pelvis a mass of bone was felt projecting somewhat conically into the cyst cavity and teeth were felt fixed to its margin. The abdominal incision was carried 1½ in. above the umbilicus. The omentum was peeled from the anterior and upper surface of the cyst. In the omentum, as it was peeled off, were found three ovoid smooth tumours, the largest of the size of a large plum, the smallest of that of a cherry, and the omentum itself was very thick and indurated. Beneath the omentum a coil of small bowel about a foot long had to be peeled off. The most difficulty was experienced in separating the adhesions on the right side. The cæcum and the appendix were adherent and the latter was stripped from its mesentery in the process of separation. Subsequently the appendix was removed as it was not thought safe to leave it in a denuded state. Hæmorrhage caused anxiety on one or two occasions. Several times there were as many as 18 Spencer Wells forceps on different bleeding areas at the same time. At this stage nothing like a pedicle could be seen. Later, when the lateral and posterior adhesions had been freely divided, the deeper part of the tumour with the uterus, tubes, and ovaries attached could be drawn up nearer to the surface, and this made the final steps of the removal much easier. With the finger the posterior surface of the uterus in Douglas's pouch was separated. The cyst appeared equally blended with both broad ligaments. Each ligament was therefore divided and ligatured in successive segments close to the uterus, beginning on the left side with the Fallopian tube. In the end the cyst was extracted complete with the exception of a square inch which was removed later. The right ureter was exposed for two inches as it crossed the brim of the pelvis. It was as thick as a large finger. The three omental dermoids were next removed, with the portions of omentum containing them. From five to eight minutes were spent in flushing out the peritoneum with hot sterilised saline fluid. This fluid flowed away clear at the end. The pelvic cavity was carefully sponged and a Keith's tube was lodged in it. The wound was closed with one row of sutures passing through all the structures of the abdominal wall. The operation lasted nearly two hours. At the end the patient was in a state of severe shock. She was cold and had a rapid, thready pulse. An enema of brandy was given at once on the operating table. This was at 4 P.M. At 10 P.M. reaction had set in; the temperature was 100·6°, the pulse was 121, and the respirations were 34. For the next three days the patient's condition was somewhat critical. There were frequent vomiting and great restlessness and severe abdominal pain with flatulence and hiccough. Under appropriate treatment her condition gradually improved so that at the end of a week anxiety was over. The day after the operation about a drachm of oily fluid, like butter melted, was extracted from the drainage-tube. Oily fluid similarly continued to escape for five days in diminishing quantities. On the sixth day a small quantity of clear serum only escaped and the tube was left out.

The abdominal sutures were removed at the end of a fortnight. At this time and upon every subsequent examination two small swellings were found to exist in the abdomen. They were situated about 2 in. below and to the right of the umbilicus. The more distinct one was smooth, spherical, moderately hard, slightly moveable and tender, and of about the size of a bean and seemed to be fixed to the posterior abdominal parietes. Close below it was a somewhat similar swelling but less distinct and of more elongated form, more like an almond. These bodies were felt again three months after the operation, when the patient came to see me as an out-patient. They were then unaltered, except that their tenderness had disappeared. I believe these swellings were small peritoneal dermoids which had been left behind. The patient was discharged from the hospital in an excellent state of health at the end of five weeks. Three months later she was found to have maintained that health and to have gained flesh.

Examination of the tumour after removal showed it to be unilocular and about as large as a man's head. The interior of the wall had a covering of coarse skin with large sebaceous gland orifices and bristles over the conical projecting bony mass mentioned. In the other parts there was no skin. The external surface was very shaggy. Attached to the front were the ovaries and tubes, separated by an interval where the uterus had been. The ovaries were exposed by dissecting from the front and were laid open. Each presented numerous cysts in the peripheral region (oöphoronic), fairly uniform in size, with a diameter of ¼ in. to ½ in. The right ovary was the larger of the two and irregular in shape. The hilum of each was very dense. The right ovary could easily be peeled from the dermoid cyst, but one surface of the left ovary was in organic continuity with it. This ovary, the left, was almost normal in shape, though somewhat flattened. It was the superior surface of the left ovary which was firmly united to the cyst wall. The union of the two structures in this region was so firm and intimate that they could only be separated without destruction by using the scalpel. Even when the ovary had been shaved off flush with the cyst wall there was still left a whitish layer on the cyst, with the outline of the ovary and an appearance of ovarian tissue. I have described this union of the cyst and ovary with a little detail because it is unusual to find a large dermoid arising in an ovary and leaving that ovary almost normal in appearance and size. It raises a doubt as to the place of origin of the dermoid cyst, suggesting that it may have arisen from a fœtal relic near but not in the ovary. But the intimate union of the ovary and the cyst makes it almost certain that the cyst is of oöphoronic origin, as ovarian dermoids are usually supposed to be. The cyst in all probability from the first grew from the surface outwards and so produced a minimum effect upon the ovarian stroma. The Fallopian tubes in the specimen were easily exposed by a little dissection above the ovaries. They were convoluted but were normal in calibre and length and empty (Fig. 1). It is clear that the tumour from the left ovary grew to the right behind the uterus and behind the right broad ligament. Two portions of omentum were removed, one small piece, containing one cyst, and a larger piece (Fig. 2). Careful examination of this larger piece showed that there were in all five cysts firmly embedded in its substance. The largest one was of the size of a large plum, tense and thick-walled, and contained greyish white sebaceous-looking material, finely granular and of the consistence of thick cream. The two smallest cysts were of the size of split peas, their walls were gritty, no doubt from calcification, and their contents of orange-yellow colour and of somewhat dry and pasty consistence. On the posterior surface of the cyst and low down was a cyst similar to the small ones described but rather larger. It hung in an adhesion at a distance of ½ in. from the cyst wall. Again, loosely attached to the anterior surface of the primary cyst near the ovaries were other small cysts like those just described. They were four in number, one close

to the outer extremity of the right ovary, the other three just above the left ovary. All these with one exception had calcareous walls and ochreous contents. The exceptional cyst was larger, thin-walled, and contained clear watery fluid. It was near those of the left ovary. I believe that two small dermoid cysts like those just described were left in the abdomen at the operation and that they form the

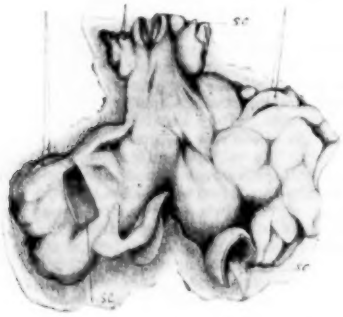
FIG. 1.



The main cyst with ovaries and tubes attached viewed from the front and left side. R O, Right ovary and tube. L O, Left ovary and tube. L O', Portion of left ovary intimately blended with the wall of the dermoid cyst. S C, Group of secondary cysts near the left ovary. S' C', Secondary cyst. The drawing is somewhat diagrammatic.

swellings still to be felt through the parietes. In all probability many more have been left behind, too small to be detected by palpation. Probably the correct explanation of the origin of the omental and other secondary dermoids in this case is the following: the primary dermoid and the ovary in connexion with it acquired adhesions early in its evolution. It is well known that dermoids of the ovaries are particularly liable to acquire adhesions. Subsequently other dermoids developed from the same

FIG. 2.



Portion of omentum containing five secondary cysts. S C, Secondary cysts.

ovary—that is, other Graafian follicles enlarged and became dermoidal in portions of ovarian struma adjacent to the primary cyst or in its wall. As these became prominent they became more and more intimately connected with adhesions and received a vascular supply from them and they became less and less firmly united to the primary cyst and its ovary. Finally, one at least became quite separated from the main cyst, probably by intra-abdominal movements stretching and rolling its adhesions.

Cases are recorded where a complete ovary and a dermoid in it have been detached from the broad ligament and uterus and fixed to the omentum. An early event in such cases is usually a twisting of the pedicle. The omental dermoids in my case at the time of operation were still adherent to the main cyst as the omentum itself was. They were, however, much more adherent to the omentum than to the main cyst and were therefore easily stripped from the cyst with the former. It is interesting in this connexion to notice how loosely attached to the ovaries and to one another and to the main cyst were the small cysts described above as lying on the anterior surface of the main tumour and near the ovaries. It is easily conceivable that such loosely attached cysts might be distributed within the abdomen by adhesions and abdominal movements or by complete detachment and subsequent adhesion. In 1866, before the Pathological Society of London, Mr. Chas. H. Moore of the Middlesex Hospital described a case in which many dermoids were diffused in the abdominal cavity. Many of these remained attached by long, thin pedicles to a large primary ovarian dermoid, but others were quite free among adhesions of the small intestines.

Another way in which this so-called epithelial infection of the peritoneum may be brought about is by the escape of the contents of a dermoid cyst into the cœlom—e.g., by traumatic rupture.[1] In my case there was no evidence of rupture of a cyst and for that and other reasons given above Moore's explanation of the diffusion of growths appears the more likely to be the true one. Moore wrote as follows: "Either the cysts, now separate, were once parts of the primary cyst and loosening themselves by the lengthening and then by the rupture of their pedicles they started in independent life; or, though formed in the wall of the main cyst, they were cast loose at their first extrusion from it."

The question as to whether dermoids ever arise primarily in the peritoneum independently of the ovaries is not settled by a study of cases such as these alone. It is obvious that no case in which an ovarian dermoid exists and in which peritoneal dermoids also exist can be used as evidence of the primary peritoneal origin of dermoids. It is quite conceivable, moreover, that a primary ovarian dermoid might infect the peritoneum and yet a complete and careful post-mortem examination fail to show how the infection had been brought about, though in the cases here cited there is some evidence bearing on the point. In Moore's case, for example, there were not only dermoids connected by long pedicles with the primary cyst, but in the wall of the latter there were traces of secondary cysts which had ruptured outwards. In his case both the methods of infection mentioned above appear to be illustrated. Similarly, my case appears to be an example of peritoneal infection, if the term may be used, by the extrusion of secondary cysts both with and without pedicles. Infection by the rupture of a cyst, either of the primary cyst or some secondary one, affords the best explanation of the existence of the large numbers of diffused cysts sometimes met with in these cases, though one would perhaps expect the secondary growths to have a warty rather than a cystic form. In some recorded cases they have had a warty form, with tufts of hair upon them hanging freely in the peritoneal cavity. But a transplanted epithelial mass is known to give rise sometimes to cysts in other parts, forming the so-called implantation cysts. If the peritoneal infection is the result of the extrusion of complete cysts, then the multiplicity of the secondary cysts is not explained and is very curious. It was interesting to find in a section taken from the skin patch in my specimen a considerable tract of thyroid tissue. I am much indebted to Mr. F. V. Foss, a student of the hospital, for the two drawings which are here reproduced.

Clifton, Bristol.

[1] Vide Surgical Diseases of the Ovaries and Fallopian Tubes, by Bland Sutton, Chapter x.

THE MIDDLESEX HOSPITAL.—This hospital will be closed from July 17th to Sept. 19th next for the purpose of effecting some very necessary repairs and alterations, repainting, and cleaning the whole of the hospital. No new patients will be received after July 1st, to allow of the wards being cleared by the 17th. The cancer wards, however, will not be closed and these patients will be received the same as usual.

A CASE OF REPEATED FRACTURE OF BOTH FEMORA RESULTING IN GREAT DEFORMITY.

BY DANIEL BROUGH, M.B., C.M. EDIN.,
HOUSE SURGEON TO THE DUMFRIES AND GALLOWAY ROYAL INFIRMARY.

THE following case which has come under my notice is one of interest owing to the peculiar liability which the patient displayed to fracture of the femur on slight injury and the difficulties which must have arisen in the treatment of the various fractures.

The patient was a youth, eighteen years of age, the elder son of a family of two, and had been brought up entirely in the country. The family history was good and showed no hereditary tendency towards fragilitas ossium. The father was the only other member of the family who had had a broken bone; this was a fracture of the bones of the forearm, occurring when he was a young man. The younger brother was a healthy lad working on the railway. He had never sustained any fractures and was a head taller than the patient. The patient had never been very robust and his medical adviser informed me that he had suffered from rickets and from tuberculous glands in the neck. He was 4 ft. 10½ in. in height. The first fracture occurred when the patient was ten months old. He was lying at the time on his nurse's lap and she, in stooping to raise an article from the floor, must have applied some degree of violence to the patient's leg. The medical man who was called in diagnosed a fracture of the right femur. It was treated with splints for six weeks. I have been unable to obtain any definite information regarding the site of the fracture as the medical attendant is now dead. The patient did not walk until he was twenty-two months old. At three years of age he broke his left thigh-bone for the first time. His mother was leading him by the hand and he stumbled and fell. The amount of violence to the thigh must have been slight, for he fell lightly backwards on to the floor. The bone was broken about the middle and firm union took place in a little over six weeks. Eight months after the above fracture had healed he again broke his left femur. He had been attempting to turn a key in the lock of a door. The key came away in his hand and he fell backwards. The fracture was situated at the junction of the upper and middle thirds of the femur. Union took place in nine weeks. At the age of five years, two years after the previous accident, he fell lightly on the floor and broke his left femur for the third time. The fracture was situated at the junction of the upper and middle thirds. Union took place in nine weeks. When he was nine years of age he fell backwards and again sustained a fracture of the femur on the left side at the site of the former injury. The fragments were firmly united in eight weeks. At the age of eleven years he met with another slight accident, resulting in disproportionate injury. He slipped and fell backwards on a frosty road. He was found on this occasion to have sustained a fracture of the right femur at the junction of the upper and middle thirds. In addition, the right collar bone was broken at the junction of the outer and middle thirds. The clavicle united in four weeks and the femur in eight weeks. The last accident occurred in 1897, when he was seventeen years of age. He fell forwards without much force down three steps and sustained a fracture of each femur about the middle. These united firmly in twelve weeks.

Altogether the patient had sustained nine fractures, five being in the left femur, three in the right femur, and one in the right clavicle. In the case of the left femur two of the fractures were situated in the middle of the bone and three at the junction of the upper and middle thirds. In the right femur one occurred in the middle, one at the junction of the upper and middle thirds, while the site of one, occurring in infancy, is unknown. On each occasion the accident was very slight and the resulting fractures were quite disproportionate to the nature of the fall. As will be seen from the history most of the falls were backwards. The diagnosis of each fracture was easy owing to the amount of displacement which occurred. The injuries were treated by long splint and extension and counter-extension bandages, except on the last occasion when the extension was applied by means of the pulley and weight. Owing to the large number of fractures occurring at various sites and the difficulties in the way of treatment a great deformity of the femora has resulted. How much deformity and shortening followed each fracture I am unable to say. No doubt each fracture made the succeeding one more difficult to treat. The thighs appeared to be too short for the length of the trunk and legs and a distinct projection could be seen on the outer side of each thigh even when the patient was dressed. The upper half of the left femur was markedly convex outwards. It was in a position of partial flexion and rotation outwards, the great trochanter being turned backwards. Its rounded lower end formed a marked subcutaneous projection on the antero-external surface of the thigh. The lower half met the upper half at an angle and united with it on its postero-internal aspect. The left femur was at least one and a half inches shorter than the right. On the right side the upper half of the femur was abducted

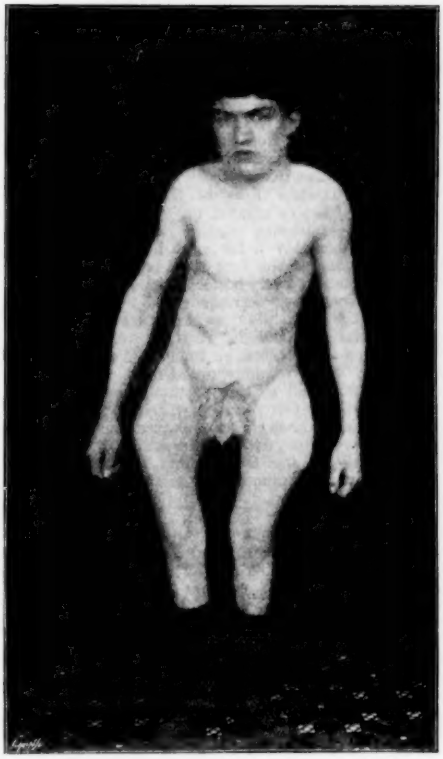


Illustration showing the grave deformity of the femora.

In the right femur it was the upper end of the lower half which formed the subcutaneous prominence on the outer surface of the thigh. The lower end of the upper half joined the lower half on its inner surface. There were great thickening and overlapping in both femora at the sites of the various fractures. It was difficult to estimate the amount of shortening which had taken place. It was due both to the overlapping of the ends of the fragments and to the angular deformity of the bones. Probably it was not less than six inches on the left side and it might be more. The clavicle was united in good position. The pelvis was tilted to equalise the length of the lower limbs and there was compensatory curvature of the spine. The patient was markedly pigeon-chested, the sternum being carried far forward. The other bones were normal.

I am indebted to Dr. Reid of Lochmaben for information regarding the injuries, and to Dr. Thomson of Dumfries for permission to publish the case.

Dumfries.

ON THE WALKING VALUE OF THE LESSER TOES OF THE HUMAN FOOT.

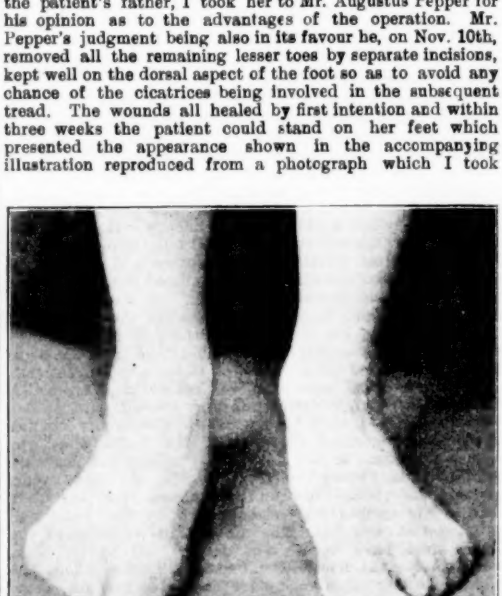
BY HEATHER BIGG, F.R.C.S. EDIN.

THE mechanical value of various parts of the human body is more surely ascertained by actual experiment than predicted by theory; hence whilst it may seem easy enough to formulate reasonable explanations of the uses of the toes it is only by their separate removal and by observing the ensuing results that a completely sound conclusion can be arrived at. In a work which I wrote in 1885 on the losses by amputation of portions of the limbs I endeavoured to show with respect to the toes that the great toe with the head of its metatarsal bone constituted the real tread of the foot and that if this tread was lost in any way it was best to discard the whole foot as useless and to remove it by Pirogoff's operation. On the other hand, I asserted that the remaining toes of the foot were mechanically of slight value and that they could be removed one and all with little detriment to the ordinary walking powers. I based these statements on my own experiences of soldiers who had lost portions of their feet from frost-bites or otherwise during the Crimean campaign and whom I afterwards saw as pensioners of Chelsea Hospital.

In 1889 Mr. Thomas Ellis of Gloucester published an erudite and instructive manual on "The Human Foot" in which work the following passage occurs: "Here let it be said that the toes play a far more important part in the ordinary functions of the foot than is generally admitted. One sees statements (where better things might be expected) to the effect that their services could be dispensed with. Even in walking, as usually done, they are used much more than is generally supposed. If they were not used the muscles moving them would be found to be wasted." Now as I read Mr. Ellis's valuable monograph with considerable care and interest, and as this particular opinion expressed by him was somewhat at variance with my own experience, I was in the hope that at some future time a case might arise under my own entire observation which could be appealed to as settling these points of difference, and I think the following instance, from its absolute completeness, may be cited as doing so.

The patient was born in 1871. Her history prior to my seeing her was, in her own words, as follows: "At the age of two years I suffered with terrible chilblains, which were so neglected that it was only with the greatest care that the toes were saved. Since then my toes have always troubled me. The two little ones began to contract when I was ten years old, and this contraction caused corns which by the time I was fifteen were so bad that they suppurated. I was then under a chiropodist of Manchester, who used to relieve them, but only for a time. Finally, when they pained beyond all endurance, I went to a consulting surgeon in Liverpool, who suggested their tendons being cut, and this was done by our own doctor in April, 1892. As this operation proved of no effect in relieving the continuous and excruciating pain, he amputated both the little toes in June of the same year and with immediate relief. The other toes at this time were not much affected, but by March, 1893, they also had become contracted, causing me much pain, and finally severe corns similar to those formerly on the little toes. In January, 1894, I consulted Mr. Barnard Holt of Savile-row, who recommended complete stretching of the tendons under chloroform and subsequent mechanical extension." Such was the patient's own account of herself. When I first saw her with Mr. Barnard Holt she was a fine, well-proportioned girl, with no other trouble with regard to her health than that due to the persistent pain in the toes. With respect to these toes the contraction of the extensor tendons was by no means spastic, but appeared to be rather accommodative and due to an instinctive effort to save them from coming to the ground in walking. The toes themselves were enlarged and bulbous, their surfaces being covered with corny, unhealthy skin. Further, they were not only painful whilst in boots, but were also so at night and to such an extent as to frequently prevent sleeping.

On Feb. 6th (the extension apparatus having been in the interim prepared) the patient was anæsthetised and the toes were fully and forcibly overflexed on to the plantar aspect of the foot. This was readily done without material resistance.[1] During the six ensuing months mechanical extension on the original plan was pursued, but it soon became evident from the exquisite tenderness of the toes that this method, which answers well enough in simple cases, could only here be intermittent and unsuccessful. Seeing therefore no other alternative and feeling confident that the issue would be satisfactory I advocated amputation of all the remaining lesser toes of both feet and, having obtained the sanction of the patient's father, I took her to Mr. Augustus Pepper for his opinion as to the advantages of the operation. Mr. Pepper's judgment being also in its favour he, on Nov. 10th, removed all the remaining lesser toes by separate incisions, kept well on the dorsal aspect of the foot so as to avoid any chance of the cicatrices being involved in the subsequent tread. The wounds all healed by first intention and within three weeks the patient could stand on her feet which presented the appearance shown in the accompanying illustration reproduced from a photograph which I took



of them. The subsequent results have been such as to justify the wisdom of the operation and to prove distinctively that the lesser toes are not of the paramount value sometimes assigned to them. As the patient lived at a distance and as there was no necessity to keep her in town for observation I asked her to periodically write to me reports of her progress and of this the dated extracts from her letters will probably form the best record.

Dec. 30th, 1894: "I am able to walk perfectly on my feet with little or no pain, but cannot yet wear either slippers or boots as they are still tender."—Jan. 15th, 1895: "I managed to get on my slippers yesterday and wore them with ease for more than six hours."—Jan. 28th: "I put on my boots to-day for the first time. It still pains me slightly to walk, otherwise my feet are going on all right."—Feb. 18th: "I ought to say that the steel plates only half way answer splendidly."—March 24th: "You will be glad to hear that I can walk splendidly now, just like a proper human being; it is just eighteen weeks next Tuesday since the operation."—May 5th: "I have decided to come to town next Monday week to let you see how well I can walk."—June 17th: "I played two sets of tennis on Saturday, and my feet were none the worse afterwards."—July 24th: "You will be surprised to hear that the big toes have lengthened ½ in. since the operation, and I have had all my boots lengthened and the toe line made straighter."—Aug. 30th: "I know that you will be interested to hear that I have just accepted an invitation to

[1] It is a melancholy accompaniment to this case that the late Mr. Barnard Holt became in the middle of this slight manipulation suddenly indisposed and the same day he took to his room which he unhappily never left again. The case, therefore, accidentally passed entirely into my hands.

a dance on Sept. 13th. Whether I shall dance comfortably or not is another thing."—Sept. 14th: "I went to the dance on Tuesday evening and thoroughly enjoyed myself after not dancing for so long. My feet were on their best behaviour, and did not pain me once during the evening. I never realised before that I had no toes until I began to dance, then it seemed so odd only to have one toe, but I suffered no inconvenience whatever from the loss of them."—Dec. 5th: "I get on so well with my bicycle."

It is unnecessary to carry these extracts further: suffice it to say that the patient has been able to walk, cycle, dance, play tennis, and to pursue, in short, every other exercise and amusement which girls of her own age enjoy.

As regards the mechanical assistance which it seemed advisable to give to the tread of the foot during the healing process it may be stated that with her first boots she had a thin steel plate extending the whole length of the foot and lying between the leathers of the sole. After three months these plates were reduced so as to only extend from the instep forwards and before the end of the year it was found that the narrow steel spring beneath the great toe was all that was requisite. These adjuncts to the sole were used to assist the great toe in acquiring complete usage to the tread of the foot. Further, to prevent the foot spreading transversely whilst the tissues at the heads of the metatarsals were consolidating a strip of Leslie's plaster an inch broad was for some time worn round the foot.

Only two disadvantages showed themselves as the result of the operation and these were temporary. One was that the great toes tended to pervert themselves towards the middle line of the feet, a thing which was readily remedied by the use of single-toed stockings and by packing the space in the boot left vacant by the missing toes with cotton wool; the other was a loss of local sense on the outer sides of the feet, which went to show that the lesser toes were missed rather as tactile organs than anything else. This failure of feeling righted itself in time presumably by a vicarious and intenser sense being acquired by the skin of the outer side of the foot. In all other respects the loss of the toes discovered no inconvenience.

There is only this to be added, that whilst the feasibility of so complete an operation is demonstrated in this particular case it would be needless to resort to it except in rare instances. Ordinarily contracted toes can be dealt with by much less radical measures if the toes themselves be sound. Still there are frequent instances in which even after mechanical extension or division of the tendons the toes revert into their inconvenient position and in such cases amputation can be adopted without scruple. I recall an instance of a gentleman whose family had an apparently hereditary disposition to contraction of the third toe in each foot. I took him to the late Mr. Berkeley Hill, who divided the extensor tendons and the toes were readily straightened, but after some time they recontracted; finally, they were amputated without the slightest detriment to his powers of walking and the inconvenience was once and for all removed. This, of course, was only one toe in each foot, but there appears no reason why in necessary cases all or any of the lesser toes should not be removed without crippling disadvantages. I believe that the excellent results in the complete case I have here recorded are largely due to the method Mr. Augustus Pepper adopted of keeping the cicatrices clear of the ultimate tread of the feet.

Wimpole-street, W.

AMYLOLYTIC FERMENTS.

BY WYATT WINGRAVE, M.R.C.S. ENG.,
ASSISTANT SURGEON TO THE CENTRAL LONDON THROAT AND EAR HOSPITAL.

THE personal necessity for a starch ferment having suggested a few experiments with several easily obtainable preparations, the experience so gained may possibly prove helpful to others in their selection of a ferment from a group which clinically receives less attention than the proteolytic does.

Choice of ferment.—Starch ferments may be divided into two chief kinds, according to their sources: (*a*) animal, prepared from glands—ptyalin (salivary), amylopsin (pancreas); and (*b*) vegetable or diastatic. The preparation of group *a* is not only attended with some technical difficulty but the products are too unstable and unreliable to become generally available. Not so those of the second group. These, for the most part, are easily obtained, stable, reliable in action and economical in price. The best-known examples are malt-diastase and taka-diastase. Malt-diastase occurs in markedly varying proportions in all extracts of malt (moist and dry), while taka-diastase is prepared by making a cultivation of Eurotium oryzæ (of the Aspergillus group) on hydrolysed wheat bran. The diastatic influence is extracted with water and separated by evaporation as a scaly powder which is readily soluble in water and possesses well-marked hydrolytic power. Many samples were tested against normal saliva and the following three examples were eventually selected as fair representatives of the second group: (1) Kepler's malt extract (moist); (2) Wilcox's desiccated malt extract (dry); and (3) taka-diastase (dry). These were tested chemically and clinically.

Chemical tests.—It must be borne in mind that the condition of all test-tube experiments must differ considerably from normal and morbid digestive changes, and, however carefully carried out, the results must only be judged as approximate. The first series of trials were made in order to ascertain which of the preparations possessed the greatest amount of diastatic power. It would be tedious to detail them all, but the following are illustrative and can be done by anyone. First experiment (test-tube): 20 gr. of malt extract (moist), 5 gr. of malt extract (dry), and 1 gr. of taka-diastase were mixed respectively with 100 minims of a 5 per cent. solution of arrowroot, neutralised and placed in a water bath at 38° C. At the end of twenty minutes the malt extract gave erythrodextrin and a trace of maltose; the taka-diastase chiefly maltose and soluble starch and the desiccated malt chiefly soluble starch. (Saliva gave soluble starch in excess with trace of maltose.) Second experiment: A thick paste consisting of 3 oz. of arrowroot (representing a full meal of carbo-hydrates) boiled with 15 oz. of water, cooled to 40° C. and rendered faintly alkaline, was placed in a flask with 300 grains of Kepler's malt extract, 150 grains of desiccated malt, and 15 grains of taka-diastase respectively. The flasks were placed in a water bath, kept at a temperature of 38° C., and shaken every three minutes. At the end of five minutes the Kepler's malt extract and desiccated malt showed no change, while the taka-diastase could readily be shaken, the paste being broken up and about one-third appeared fluid. In ten minutes it was only lumpy in the centre and in thirty minutes the lumps had quite disappeared, while the Kepler's malt extract and desiccated malt were nearly as gelatinous as at first. It was found that the products of the taka-diastase action were soluble starch, maltose, and erythrodextrin, the original arrowroot being entirely changed while the Kepler's malt extract and desiccated malt only afforded small quantities of sugar, soluble starch and dextrin. This test indicates that taka-diastase possesses greater hydrolytic power than either of the malt extracts, which may be due either to a higher ferment potential or to a greater range of action under disadvantageous and artificial conditions, such as accumulation of sugar and intermediate products, &c. It was further observed that increase of the temperature up to 50° C. increased the action of the malt extract.

Having considered the behaviour of these ferments under what might be termed favourable conditions the next point was to watch them under morbid influences similar to those occurring in so-called dyspeptics. During pyrosis, lactic acetic and butyric acids are present in proportions variable yet minute. A sufficiency of each acid was added to starch solutions to produce the well-known acid taste and the solutions were then watched under the same conditions of temperature as in the other tests. In each case the starch was converted after three times the duration of the exposure used in the other tests into soluble starch and slightly to erythrodextrin, but sugar only appeared in very small quantities after three to four hours. The addition of neutral peptones and proteids did not appear to exert any influence. The presence of 0·2 per cent. of hydrochloric acid after exposure for twenty minutes permanently killed all the ferments, but for a less period activity was restored on neutralisation. Quinine dissolved in citric acid did not inhibit unless the strength exceeded 0·5 per cent., a point which is of clinical interest since my experience has shown that small doses of ½ gr. to 1 gr. undoubtedly act beneficially in cases of pyrosis. The ferments were then tested with raw starch as represented

by scraped fresh potatoes, upon which, like saliva, they had no hydrolytic influence whatever.

Clinical tests.—Having seen that butyric, acetic, and lactic acids retarded the conversion of starch into sugar, their neutralisation was obviously necessarily essential to a satisfactory ferment action in cases of pyrosis. A preliminary preparation of the stomach by means of small doses of carbonate of magnesia and chalk in the form of lozenges, or sodium carbonate dissolved in chloroform-water, proved effectual. For it must be borne in mind that, normally, starch conversion is carried on in the stomach, not in the mouth, and it has every opportunity of being completed in the stomach, since hydrochloric acid may not appear free for from half to one hour. But it is extremely doubtful what proportion of work the stomach and intestines respectively perform in a person living at high tension with an irritable digestive tract. As hydrochloric acid is necessary for exciting and maintaining proteolysis so alkalies are essential for proper starch conversion, and it is almost useless to attempt the digestion of starch in cases of pyrosis without their aid. It is probable that in a very high percentage of cases described as dyspeptic the starch conversion is mainly at fault, and consequently the case shows no improvement under pepsin treatment.

Clinical observations supported the test-tube evidence. The dry malt extract not only acted as a powerful sialogogue, being a pleasant substitute for jam when eaten with bread-and-butter, but the after-effect undoubtedly gave evidence of a greater diastatic power than the artificial tests led one to expect. The fluid malt extract seemed to increase the pyrosis to such an extent that it had to be discontinued in several cases, while in others the excessive sweetness was tolerated and its diastatic action seemed satisfactory. Still the excess of sugar and its bulk more than counterbalanced its diastatic value. Taka-diastase, on the other hand, being free from sugar, is entirely without these disadvantages and its action is unhampered.

The conclusions may thus be briefly summarised: 1. That of the commercial starch or diastatic ferments taka-diastase is apparently the most powerful and the most reliable since it is more rapid in its action—i.e., it will convert a larger amount in a given time than will any other amylolytic ferment. 2. That organic acids, such as butyric, acetic, and lactic, the acids most frequently present in pyrosis, &c., do retard but do not permanently kill the ferments, and when neutralised are harmless. That taka-diastase seems to be less influenced by them, and also by tea, coffee, and alcohol, than are saliva and malt extracts. 3. That hydrochloric and other mineral acids quickly stop and permanently destroy all the starch ferments if allowed sufficient time and if present in sufficient quantities. 4. That taka-diastase and malt diastase have, like ptyalin, no action upon cellulose (uncooked starch).

Devonshire-street, W.

NOTE ON A CASE OF ANGULAR CURVATURE OF THE SPINE IN AN ADULT.

BY CHISHOLM WILLIAMS, M.R.C.S. ENG., L.R.C.P. LOND., L.S.A.,
ASSISTANT SURGEON, CITY ORTHOPÆDIC HOSPITAL, E.C.

THE patient was a man, aged fifty-six years. His family history was good. His parents are living. The patient is an only son. He had had measles and scarlet fever in early childhood. There was no specific history. Early in the year 1883 on returning from America he was thrown somewhat violently from the upper of two sleeping-bunks to the floor and "wricked his back," which remained painful for a couple of weeks. He then visited the south of France for some months and felt fairly well during this time. During the winter of 1888-89, he noticed that the pain in his back (the dorso-lumbar region) was of a gnawing, dull character with a general feeling of "weak back" which was increased on stooping or hurrying about but was relieved during the night in bed and in a less degree when lounging in an arm-chair. He also noticed feelings of cramp in the calves but of a very slight character. In 1890-91-92 the back symptoms remained fairly stationary but he had two attacks of influenza, laying up for two and three weeks respectively. At the end of 1892, the symptoms becoming greatly aggravated, he was advised to see one of our leading neurologists, who treated him for some months with drugs, diet, &c., and the back was "fired" on seven occasions and the resulting marks bear evidence of the thoroughness of this part of the treatment. In 1893 the pain was almost continuous, being still dull and gnawing, and at times he had attacks of severe cramps, mostly at night. His gait became unsteady, he not being able to walk in a straight line. He was also noticed to stoop very much. Towards the close of the year intercostal neuralgia, chiefly of the right side, much abdominal pain, and other vague sensations about both the abdomen and the limbs made themselves manifest. For the relief of these pains his medical attendant had repeatedly to inject morphia and to give opiates at night. In January, 1894, he was first seen by me, and he then presented the following condition. He complained of two kinds of pain: one a dull, gnawing, incessant pain, slightly mitigated by the use of morphia, situated on either side of the spinous processes of the tenth, eleventh, and twelfth dorsal and first lumbar vertebræ, extending 3½ in. to the right and about 1½ in. to the left; the other a radiating neuralgic pain which darted round the intercostal spaces and down the lower limbs. A peculiar sensation he described was a cold creeping from the sacrum up the spine to the nape of the neck. At this time he had also early-morning cramps of the side and back muscles.

On examination his general appearance was that of a man who had been for a long time a chronic sufferer. He was extremely emaciated, weighing barely 8 st., and being 5 ft. 9 in. in height. His walk was an elongated zig-zag; he also walked somewhat sideways, with the right shoulder in front and slightly higher than the left one; the back was always held perfectly rigid; the spine presented a well-marked slightly reddened "boss" from the tenth dorsal vertebra to just below the first lumbar vertebra on the left side; on a level with this boss was an induration and a sense of resistance over an area of the size of an adult palm. On the right side there was a distinct bulging which was raised about ½ in. above the surrounding skin. At this part deep fluctuation could be easily obtained outwards for a distance of 2½ in. but no further, nothing could be detected in front or towards Poupart's ligament. Over the three lowest intercostals, the right side, and the right half of the abdomen to just below the anterior superior spine of the ilium a condition of hyperæsthesia was observed and several patches at the upper part of the right thigh (back and front) and at the back of the right calf. The rest of the leg seemed anæsthetic. The temperature varied from 99° F. in the morning to 100 5° at night.

Treatment.—The patient objected most strongly to any form of treatment which would confine him to the house, much less to his room, so all thoughts of the prone position had to be abandoned. He stayed in bed, however, for a week whilst the fluctuating swelling was aspirated and nearly 3 oz. of thick yellow pus were removed. Towards the end of the week it was again tapped of about 1 oz. of thin serous fluid, slightly blood-stained. By this time a simple metal spinal support was procured, after the pattern of the late Mr. E. J. Chance's, and was accurately adjusted; the most severe part of the pain ceased in a couple of weeks. By the end of six weeks the cramps and hyperæsthesia had also vanished. The morphia was discontinued after the first week. A course of strengthening and tonic treatment was then carried out, cod-liver oil, syrup of hypophosphites, and malt extract being the chief aids, and was kept up fairly well for a couple of years. The splint was worn day and night for twelve months only and then it was left off unknown to his medical attendant or to myself. When I next saw him, about eighteen months after putting the splint on, he had left it off six months and felt quite well, every symptom having disappeared. The "boss" remains the same, but by being able to hold himself more upright his appearance is greatly improved.

The case is interesting on account of the shortness of the period of treatment in an adult. It consisted of only one week in bed, one year of mechanical support, and two years of intermittent medical treatment. I have seen the patient again this year (1898) and he says he is quite well, having had absolutely no trouble with his back for the past three years or so.

Bishopsgate-without, E.C.

ON SOME MENTAL FACTORS IN THE CAUSATION OF DEATH UNDER CHLOROFORM.

BY ROBERT BALLARD, M.R.C.S. ENG., L.R.C.P. LOND.

THE chloroform controversy has not yet ceased to interest the profession as a whole, and at this stage it may not be inopportune to draw attention to certain clinical aspects of the question which, in the purely academical phase which the discussion has now assumed, are in danger of being overlooked or forgotten. The published conclusions of the Hyderabad Commission have given the much needed stimulus to a closer investigation of the facts connected with the mechanism of death under chloroform. The storm of criticism which those conclusions evoked has resulted in the valuable physiological inquiries of Dr. Leonard Hill and others, and the interest which has been aroused by their investigations into what may be called the hydrostatics of the circulation is apt to divert attention from the significancy of the fact that all laboratory experiments are necessarily conducted upon animals and to cause us to forget for a time the personal equation which enters so largely into all questions connected with the human organism.

In 1894 I recorded in the pages of THE LANCET[1] a case of cardiac syncope under chloroform — happily ending in recovery—in which the predisposing cause of the accident was undoubtedly the terror and mental anxiety of a nervous lad subjected for the first time to an experience the dangers of which were to him the more alarming because unknown. The horror with which some persons regard the idea of an anæsthetic is to many people incomprehensible, but it is none the less real, and I am convinced that the importance to the administrator of ascertaining the mental attitude with which the patient approaches the operation cannot be overestimated. In some cases operative measures are decided upon and the patient's consent obtained three or four days before the operation is finally performed, and during the intervening sleepless nights and long weary hours of waiting in bed the ever-present idea of operation looms larger and larger in the patient's mind. With sickening reiteration he dwells again and again upon what he may imagine to be the details of the operation and endures in anticipation a mental agony out of all proportion to the actual facts. Is it rash to assert that such a patient will be brought to the table with nervous and circulatory systems heavily handicapped for the strain which will be put upon them?

The following case which occurred in my own practice well illustrates the grave condition which may be produced by fear and anxiety. A woman, aged twenty-three years, single, had suffered from frequently recurring attacks of appendicitis of considerable severity and it was decided during a period of quiescence to perform laparotomy for the removal of the diseased appendix. The patient was a pale, nervous woman, much reduced in health by her former attacks, and with a marked neurotic family history on the mother's side. I first saw her the morning before the operation. She was then evidently anxious, but evinced, as far as I could judge, no signs of great mental distress. The pulse was 98, dropping ten minutes later to 89. The heart was normal in every respect and the sounds, though hurried, were clear. On asking her to sit up I fancied I could detect a faint hæmic murmur at the pulmonary base. An examination of the chest gave negative results. When I left the pulse was 84, having dropped 14 in less than half an hour. I did not see her again until the following day when she was brought into the next room for operation. Her condition was then typical. The heightened colour, hurried irregular respiration, compressed lips and fluttering eyelids spoke of the fear and suppressed excitement from which she was suffering. The pulse was 104, and the heaving impulse of the heart could not only be felt but seen. The superficial veins of the neck were slightly engorged, and on careful scrutiny showed a faint but distinct pulsation. Indeed, her condition was so serious and the engorgement of the right side of the heart so obvious that I was in doubt as to whether it was justifiable to operate at all. At the last moment I decided to give gas and ether, in spite of a slight bronchial catarrh from which the patient had been suffering. The sight of the Clover's inhaler added the last straw to her terror, and when on the table she begged that the operation might proceed without an anæsthetic. When fully under the influence of nitrous oxide the signs of engorgement disappeared, the pulse-rate fell, and she eventually took the ether well and made a good recovery.

The chief element of danger in these cases is the profound disturbance of the circulation which commences in many cases some days previously and persists until the patient is well under the influence of an anæsthetic. In the worst cases there are signs of serious embarrassment of the right side of the heart and in two cases I have observed an undoubted temporary tricuspid regurgitation—physiological, no doubt, but none the less dangerous. It may be urged that inasmuch as this condition passes away as consciousness is lost its gravity has been exaggerated; but it is when the patient is still conscious and is struggling and holding his breath that the greatest stress is laid upon the heart and the occurrence of sudden syncope is most to be feared. Every anæsthetist knows that children bear chloroform, on the whole, better than adults and that the victims of sudden accidents necessitating operation are not so liable to syncope as the serious shock they have sustained would lead one to expect. Children, in fact, are in much the same position as Surgeon-Lieutenant-Colonel Lawrie's dogs: they are spared the depressing effects of anticipation and their fear does not begin until they are actually on the table and is then of short duration; and the victims of severe accidents are so overcome by the suddenness of the shock and by the maiming or mutilation which may result that the administration of an anæsthetic is looked upon as a detail of minor importance and an operation of some kind regarded as a matter of course. National character, also, may have more to do with the absence of fatalities from chloroform obtaining in Edinburgh than from any peculiarity in the exhibition of the drug.

In the majority of private operations the anæsthetist is a stranger to the patient. This, when possible, should be remedied. Every surgeon must have remarked the good effect produced upon a nervous patient by a cheerful and optimistic view of the approaching operation when expressed by a comparative stranger and one entitled to speak with authority. Where there are signs of great anxiety and engorgement of the right heart I prefer to give gas and ether. But occasionally these cannot be obtained or are distinctly contra-indicated and chloroform has to be used. It is here that morphia is so useful. One-sixth to a quarter of a grain should be injected at least half an hour before the administration with, as a rule, the happiest results. Where morphia again is contra-indicated—and in spite of the text-books such cases are rare—one would naturally turn to the bromides of ammonium and sodium, but I have not yet had occasion to use these drugs.

High Barnet.

[1] THE LANCET, Nov. 24th, 1894.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF FRACTURED RIBS FOLLOWED BY TUBERCULOUS CASEOUS PNEUMONIA AND DEATH.

BY ROBERT E. LORD, M.D., B.SC. LOND.

THE case of pneumonia following injury and leading to fatal tuberculous mischief in the lung recorded by Dr. Thomas Harris in THE LANCET of April 16th, 1898, induces me to report the following case, which is the only one of the kind I have seen during five years' practice in a health resort to which cases of phthisis are constantly sent during the winter.

A man, aged twenty-nine years, was seen by me in December, 1894, and gave the following history. Until the previous September he had enjoyed good but not robust health. He had not suffered from any but the illnesses of childhood and had always been of strictly temperate habits. He had led a sedentary life, taking very

little exercise and spending his days in his office and his evenings at home or in places of amusement. His family history was good except in the case of his father, who had had a cough accompanied by much expectoration and loss of flesh for some months before his death which happened in the spring of 1894 from pneumonia. In September the patient while at his office was "larking" with some fellow-clerks and fell against the corner of a table, striking the upper part of the right side of his chest against it. He felt severe pain which was so violent as to compel him to go home, where he was seen by his usual medical attendant, who found fracture of three or four upper ribs and applied strapping and sent him to bed. During the evening a small quantity of bright-red frothy blood was expectorated. On the following day he was feverish, the pain still continued and there were signs of pleurisy. Slight hæmoptysis occurred for some days, and signs of consolidation were developed, and later of softening at the right apex. The temperature for several weeks reached from 101° to 102° F. in the evening; he lost flesh, had severe night-sweats, and about a month after the receipt of the injury had a severe attack of hæmoptysis, after which he temporarily improved and was able to be moved to Colwyn Bay in October. In December, when I first saw the patient, he had signs of an extensive cavity in the right apex and of consolidation with some softening at the left. There were large masses of hard lymphatic glands in both supra-clavicular fossæ, especially on the right side, and on this side they were said to have developed soon after the accident. The evening temperature varied from 101° to 103°, falling to 99° or thereabouts in the morning. He had severe night-sweats, much cough, and profuse expectoration containing many tubercle bacilli. The disease rapidly spread to other portions of the lungs; the larynx and pharynx became affected and ulcerated very extensively, and he died on March 31st, 1895, about six months after the accident which apparently originated the affection.

Remarks.—There was evidently a lesion of the lung caused by the fractured ribs either at the time of the accident or within a few hours of it and a favourable site for the growth of tubercle bacilli was thus prepared. From the facts that he had led an in-door life, that he had lived for years in the house where his father (who probably had phthisis) had lived and died, and that the signs of tuberculous infection showed themselves very soon after his fall, it seems fair to assume that he probably already had in his respiratory tract tubercle bacilli which were only enabled to flourish when the special opportunity thus offered arose. This they seem to have done most luxuriantly, as his symptoms were of the acutest character from the very first. It appears that either the infection must have been a very severe one or the powers of resistance of the patient were very slight. No necropsy was obtained, and therefore no opinion can be hazarded as to whether or not he had any tuberculous lesions of older date than the accident.

Colwyn Bay.

TWO CASES OF PERFORATION OF THE INTESTINE BY ASCARIDES.

By P. APOSTOLIDES, M.D.,
PHYSICIAN TO THE GREEK ROYAL NAVY.

IT is known that round worms can enter the various ducts and organs communicating with the digestive tube in their normal condition, but perforation of the sound intestine by ascarides is a very rare occurrence. The event has been much discussed and even doubted by many authors. According to Davaine, Niemeyer, and others the perforation could only take place in the event of the mucous membrane having been previously ulcerated. Other authors have either discussed the fact or leave it unmentioned. However Leuckart, Mandière, and Magnac say that ascarides can penetrate the peritoneum by primitive perforation of the sound mucous membrane. Charsley also reported some time ago an observation in favour of this assertion. This accident is in my opinion much more frequent than is commonly supposed. I am led to this conclusion by the observation of two such cases in the space of ten years at the Naval Hospitals of Piræus and Salamis. One of these two cases I have already published in the medical journals Ταχυδρόμ of October, 1886, and *La Semaine Médicale* of Nov. 27th, 1886. The second case I now send to THE LANCET, repeating also the first.

The patient in the first case was a man who was admitted to the Naval Hospital of Piræus with attacks of simple intermittent fever. On the night of the fourth day after his admission he presented all the symptoms of intestinal perforation and acute peritonitis and died in the evening of the following day apparently from that cause. At the necropsy the cavity of the peritoneum was found to be full of a sero-purulent fœtid liquid. A little above and to the right of the umbilicus the head of a live ascaris was detected. Upon careful examination, between the jejunum and ileum, in a portion of the intestine otherwise perfectly sound, there was found a small, circular perforation of the size of a lentil, through which the ascaris had penetrated into the cavity of the peritoneum. In the intestines there were also numerous ascarides but the mucous membrane was perfectly sound in all its extent.

The patient in the second case was a sailor, aged twenty-two years, who was admitted into the naval hospital of Salamis on May 7th, 1897, with violent pains in the abdomen, meteorism, foul tongue, and a temperature of 39·2° C. (102·6° F.). During the four days that he was under observation he showed symptoms of peritonitis which would not yield to any treatment and he died on May 11th. At the necropsy the peritoneum was found full of a sero-purulent liquid. At the upper part of the ascending colon there was discovered a perforation of the size of a lentil and from it was removed part of an ascaris the remaining portion of which was found inside the intestine.

As these two cases came under my notice in so short a space of time it is probable that many similar ones occur without their true nature being recognised and that the symptoms are wrongly attributed to peritonitis of tuberculous or other nature.

Piræus, Athens.

A CASE OF DEAD TWIN RETAINED TO FULL TIME.

By DAVID ROSS, M.B. ABERD.

ON Feb. 15th, 1898, I was called by a Royal Maternity Charity midwife to see a woman, aged thirty-two years, a poor Jewess, whom she had just delivered. The patient was the mother of five healthy children, two of them being twins. During the first three months of her pregnancy she stated that she thought she was carrying twins, the early symptoms being very similar to those of the previous occasion on which she had twins. One morning in her fifth month, after she had felt quickening, she stated that she had had a fright, and on that evening severe metrorrhagia set in which lasted for three days; then for three months after she had a slight yellowish discharge. During the last four months she said that she distinctly felt the movements of a child on the right side, but that in the lower part of the abdomen on the left side she felt as if she were carrying a stone and had a feeling of great weight and dragging pain. Labour began on Feb. 13th at midnight and continued all next day till 6 P.M., when she was delivered, with little trouble, of a dead fœtus about five months old. The midwife waited, as she knew there was another child, and at 8 A.M. on Feb. 15th she was delivered, after a very severe labour, of a fine, healthy, full-time girl. The body of the fœtus was flattened antero-posteriorly, while the head, due to a twist on the neck, was flattened from side to side. The skin was soft, moist, and tough, was very pale, and felt like wet chamois leather; but there was no offensive smell or any sign of decomposition. The features were quite unrecognisable and the sex was indistinct.

The interest attaching to this case is that in spite of the excessive metrorrhagia at the fifth month the dead fœtus was retained, constituting rather an uncommon case of missed abortion.

Kingsland-road, N.E.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.—The annual report of this institution states that 1273 in-patients were admitted during 1897, being 62 in excess of the previous year, and 2445 out-patients were treated, against 2660 in 1896; 259 patients were sent to the Pearn Convalescent Home. The ordinary income for the year was £5762 and the total expenditure was £6129.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF TUBERCULOUS ABSCESS IN THE ABDOMEN COMMUNICATING WITH THE RECTUM; OPERATION; RECOVERY.

(Under the care of Mr. WATSON CHEYNE.)

ON Dec. 8th, 1893, Mr. Watson Cheyne was asked by Dr. Lendon to see a patient, aged twenty-six years, who had been knocked down by a runaway horse two years before while she was carrying a pair of skates. She fell on the skates and hurt her right side in the inguinal region. About four months afterwards she noticed a swelling on the right side towards the middle line at the lower part, but she did not consult anyone till the autumn. She was then found to have a swelling towards the inner part of the right iliac fossa and extending in the direction of the middle line; the swelling was fairly large and fluctuating. At that time she saw a gynæcologist who sent her to an ovariotomist for operation, but neither of these gentlemen seems to have made a definite diagnosis. In October, 1892, an incision was made above the pubes in the middle line and a little pus was found in the lower part of the abdomen; nothing further was done except that a drainage-tube was inserted. This was kept in for about ten weeks and when it was left out a sinus remained which had never healed. The discharge was at first comparatively slight but steadily increased. The patient went to the seaside and to the country and tried in various ways to improve her general condition. Not very long after the operation it was noticed that pus was being passed per rectum and of late the quantity of pus so passed had increased very considerably. She had also of late been going down hill very rapidly; she was markedly emaciated, had profuse night sweats and hectic temperature, and the pulse varied from 120 to 130. A large quantity of albumin was present in the urine. She had lately seen the gentlemen who operated on her before, but they declined to do anything further and it became quite evident that she was losing strength rapidly.

On examination the patient complained of a great deal of pain on the right side of the abdomen at the lower part, especially on pressure. She was very much emaciated, had night sweats and hectic temperature in the evening ranging between 102° and 103° F., and there was about one-eighth of albumin in the urine. On examination a sinus was seen in the middle line about 1 in. above the pubes, and a probe passed into this sinus went backwards and somewhat to the right for a long distance—in fact, the whole length of a small probe passed in. With the finger in the rectum a thickening was felt as high up as the finger could reach and a mass was also felt in Douglas's pouch, and when the finger was withdrawn it was found to be covered with pus. On vaginal examination a large mass was felt lying towards the right side, slightly moveable but attached to the uterus, which was pushed towards the left. The probe passed into this mass, running down along the right side of the bladder. Bimanually the mass could be very distinctly felt and seemed to fill up the whole region from the rectum to the situation of the sinus in front and towards the right side.

As it was evident that the patient was going down-hill very rapidly Mr. Watson Cheyne determined to explore the sinus more thoroughly and see what could be done with the view of remedying the disease and if possible shutting off the communication with the rectum. Accordingly on Jan. 3rd, 1894, the bowel having been well cleared out and the patient having been placed under the influence of an anæsthetic, a long probe was inserted into the sinus and the opening was sufficiently enlarged in a downward direction to admit the finger, great care being taken of course not to injure the bladder. On gradually dilating the sinus and inserting the finger it passed into the centre of broken-down material and portions of this on being taken out looked like masses of granulation tissue, but it was not certain that they were not masses of tumour substance. It seemed upon consideration that the only chance which the patient had was to attempt to excise the whole mass, even although one ran a great risk of setting up a suppurative peritonitis. Hence the incision was enlarged upwards to the extent of five or six inches, the abdomen was opened, and the intestines were pushed upwards to the left and were guarded with flat sponges. On examination with the hand in the abdomen the mass was found to be adherent to the bladder on the right side and to the right side of the uterus, the ovary and Fallopian tube on that side not being distinguishable from it, and it extended backwards into Douglas's pouch and was adherent to the rectum behind. Having ascertained the connexions of the tumour with the hand in the abdomen it was gradually peeled off from the various structures, beginning at the bladder in front. The front of the mass was gradually detached without any very great difficulty and then it was found that the broad ligament and ovary were firmly embedded in it and the ligament was therefore tied in two places and divided. The mass was then peeled off from the uterus, from Douglas's pouch, and from the rectum, and ultimately was removed as one mass. There were only a few adhesions to the intestines. There was no troublesome bleeding. When the mass had been removed it was found that there was a large hole in the rectum which almost admitted the little finger and a probe could be readily passed through it and out at the anus. The condition left was therefore a raw wound in the pelvic cavity with the uterus, bladder, and rectum forming part of the wall of it, an opening in front, free communication with the rectum, and free communication with the peritoneal cavity. Owing to the great depth of the parts no attempt was made to stitch up the hole in the rectum. The pelvis having been sponged out five large drainage-tubes were inserted, these extending right down to the hole in the rectum, and the rest of the wound was then stitched up and an antiseptic dressing was applied. The patient stood the operation extremely well and was not collapsed afterwards, nor was there any vomiting.

On the following day (Jan. 4th) the temperature rose in the evening to 99·2°, having been in the morning only 88·6°. The pulse was full and 100. The patient was very well, taking her food well. The wound was dressed twice; there was no odour about the dressing; the drainage-tubes were not disturbed. On the 5th the temperature was slightly subnormal and kept at 98° all day; the pulse was 104. The abdomen was not distended and there was no marked tenderness. The wound was dressed twice; there was a slight fæcal odour in the discharge, a good deal of which had escaped by the drainage-tubes in front. On the 6th the temperature in the morning was 98·6° and in the evening 97·8°; the pulse was 112. The patient was not quite so well. The abdomen was considerably distended and tympanitic, but there was no marked tenderness over the abdomen and abdominal breathing was present. There was a great tendency to nausea and once or twice there was vomiting. On the 7th the temperature was 98° in the morning and 98·8° in the evening. The distension was more marked and there was slight tenderness at the lower part of the abdomen, but nothing very noticeable. The patient vomited three or four times during the day and took food badly. Her facial expression was more of the abdominal type and the tongue was dry. There was a good deal of smell from the wound and she passed nothing at all per rectum. A rectal tube was passed beyond the region of the wound and an enema was administered with very slight results—in fact, nothing more than washing out the fæces from the rectum. On the 8th the patient was distinctly worse. The abdomen was very distended, the patient was taking hardly any food, and some vomiting occurred. The pulse was 120. There was no pain; her condition was obviously very serious. The question was evidently between peritonitis and intestinal obstruction, and as the patient was going down-hill it was clear that some investigation must be made as to which it was, although this was very reluctantly done on account of the fear of breaking down the adhesions which had already formed and the consequent risk of infecting the abdomen. The drainage-tubes were accordingly taken out and the finger was inserted into the cavity; it was found that one coil of intestine had been lying between two of the drainage-tubes and very slight

pressure of the finger, without breaking down the adhesions which had formed around, restored this coil to its proper position. Only three of the tubes were reinserted and the general peritoneal cavity was not opened into. On the 9th the patient was very much better. The bowels had acted freely twice during the night and a great deal of flatus had been passed; the distension of the abdomen was less. The vomiting and sickness were also much lessened. The discharge from the wound still had a fæcal odour. The pulse was 112 and the temperature was normal. From this date the wound healed steadily and the patient gradually improved in condition. Upon two occasions when attempts were made to leave out the tubes it was found necessary to put them back, but on the whole the discharge of pus from the wound was comparatively slight and though for a few days it had a fæcal odour this gradually passed off. As regards the discharge from the rectum, after the first three or four days there was apparently no discharge at all, and as far as one could judge no pus subsequently escaped per rectum, so that the opening must have closed or a piece or intestine must have come down over the opening and sealed it from quite an early period in the treatment of the case; the rectal opening, from which so much trouble was feared, as a matter of fact gave practically no trouble at all. The patient was allowed to get up about Feb. 20th and went out on March 6th with a sinus at the seat of the original opening, a drainage-tube being kept in; the rest of the wound was completely healed and she was allowed to walk about wearing an abdominal belt. The albumin in the urine had markedly decreased in amount. From the time of the operation, except on two occasions when the drainage was not very good, there had been no rise of temperature whatever and she entirely lost her hectic fever, night sweats, and rectal discharge. The sinus was a very long time in closing; however, it healed completely in the early part of 1896 The patient has since married and is now in excellent health, being stout and well and with no trouble at all. On examination of the mass removed it was found to be composed of tuberculous tissue containing numerous tubercles which were at parts undergoing caseation.

Remarks by Mr. WATSON CHEYNE.—Here, therefore, the source of the evil was a large tuberculous tumour, which had suppurated, and it was this chronic abscess which had been opened and which had also perforated into the rectum. As to the point of origin of this abscess one really could not come to a satisfactory conclusion; included in the mass which was removed were the remains of the ovary which was recognisable and a piece of the broad ligament, though the Fallopian tube could not be distinguished among the mass of inflammatory material. Whether the disease originated in the Fallopian tube or in connexion with the ovary or whether it originated quite outside these structures and became adherent to them it really was quite impossible to say. Against the view that it was in the first instance a tubal condition was the fact that certainly nothing like the whole tube was distended. The tube in the immediate vicinity of the uterus was perfectly healthy and I am rather inclined to think that it originated in the cellular tissue of the pelvis, probably outside the peritoneal cavity.

The great interest of the case is of course the possibility of removing a septic mass like this without infecting the peritoneal cavity and more especially the possibility of leaving an opening of considerable size communicating freely with the rectum and the peritoneum without the occurrence of any subsequent peritonitis. It seemed to me that all that could be done was to see that there was a free opening for the discharge anteriorly and to trust to the rapid shutting off of the general peritoneal cavity by the matting together of the coils around. The rectum, of course, had been very carefully washed out beforehand and it was also washed out through the opening with weak sublimate solution; therefore, one could hope that no actual solid particles of fæces would find their way into the abdominal cavity before the part was completely sealed off. And this anticipation was evidently entirely realised. Since I operated on this case records of cases have been published in which openings have been left in septic cavities in the abdomen, where the wound has been packed with gauze to absorb the discharge and also to shut off the general peritoneal cavity. This is the method which I have adopted also in cases in which I have had to do with abscess where it was not properly shut off from the abdominal cavity. But I cannot say that I like the plan any better than that of using drainage tubes; the gauze does not absorb very well and adheres firmly to the intestine, and in taking it out one may have to use considerable force and may thus run a certain risk of tearing up the young adhesions at the time when there is more infective material about than there was when the operation was performed; and in one case I have seen an accident occur in regard to the partial strangulation with gauze similar to that which happened in my case with the tube. That point is also one of great importance and interest, viz., the occurrence during the few days of symptoms in which the diagnosis between obstruction and an insidious peritonitis was difficult; and until I was quite sure that some intervention was necessary I hesitated to disturb the wound and run the risk of infecting the peritoneal cavity. Very possibly one large tube would have sufficed, but I did not like to trust to it, and this occurrence illustrates the disadvantage of using more than one tube owing to the tendency of the coils of intestines to slip in between the tubes. If I had a similar case again I should use one very large tube in the first instance. The case teaches us to bear in mind the possibility when one is draining the cavity, whether with a tube or with gauze, that distension and other symptoms which at first may lead one to think that peritonitis is setting in may be due to partial or complete constriction of the intestinal canal by the tubes.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Distribution of Leprosy Bacilli in the Tissues.—Hæmatocele in a Hydro nephrotic Kidney.—Latent Tuberculosis of the Tonsil.—Hæmorrhage into the Suprarenal Capsules of Infants.—External Rupture of an Aortic Aneurysm.—Exhibition of Specimens.

A MEETING of this society was held on May 3rd, the President, Dr. J. F. PAYNE, being in the chair.

Professor KANTHACK exhibited, for Dr. BERGENGRUEN (Riga), specimens showing the Distribution of the Leprosy Bacillus in the Tissues and the Histogenesis of the Giant Cells in Leprous Lesions of the Larynx. Unna was the first to maintain that the leprosy bacilli inhabit the lymphatics and not the cells. This was denied by all except Leloir. In 1895 Dr. Bergengruen together with Gerich proved unequivocally the correctness of Unna's view Last year Herman and Dobi also confirmed Unna's view at the Leprosy Conference in Berlin, but those observers overlooked Dr. Bergengruen's previous work. The specimens prepared by the latter showed clearly that the so-called "globi" and "lepra cells" are merely cross sections of bacillary thrombi in the lymphatics. In impression specimens prepared from leprous intra-laryngeal ulcers the bacilli were found in irregular branched clusters, not inside the cells. The masses were cylindrical and evidently consisted of tubular structures. In sections the bacillary masses were arranged in delicate chains and bands, often running as parallel lines through the tissue. They generally lay in spaces lined by endothelium. They possessed no nuclei or cell outline. The "globi" and "lepra cells" represented bacillary thrombi. He had no doubt that leprosy bacilli were occasionally found in the cells also. Further, the specimens distinctly proved that the giant cells in the leprous larynx were due to endothelial proliferation around the bacillary thrombi. The latter appeared to be engulfed by the giant cells, but actually they remained in the lumen of the lymphatic vessel. The thrombus acted like a foreign body and irritated the contiguous endothelium at some parts, causing the cells to proliferate and form a plasmodial mass. Dr. Bergengruen's conclusions, he insisted, were only to be applied to the lesions which he had investigated, but in these he held that the specimens shown established his contentions.—The PRESIDENT said that he had examined several specimens of organs from cases of leprosy and till lately he had had no doubt that the bacilli were intra-cellular. But that day he had examined preparations prepared by Mr. Shattock from the skin of a case which had recently been under his care, and in this specimen the "globi" were not well seen and strings of bacilli were scattered through the section and did

not seem to be included in the cells.—Dr. HEBB said that for some years he had taught that the "lepra cells" were non-existent. In transverse sections of affected nerves the bacilli could be easily seen to lie between the fibres and away from the cells.—Dr. ANDREWES, without in the least questioning the correctness of the description of the appearances as described by Dr. Kanthack, asked if it were not possible that while in primary surface lesions the bacilli might be in the lymphatics in the internal organs they might be intracellular. In the spleen, for instance, he thought that he had seen them distinctly within the cells.—Professor KANTHACK, in reply, said that there were special difficulties in the case of the spleen in deciding whether organisms were in the cells or merely lying on them. The question could only be solved by making serial sections. But he would not be surprised at leprosy bacilli being found in the splenic cells as the spleen was the grave of almost all organisms.

Dr. J. ROSE BRADFORD showed a Hæmatocele in a Hydronephrotic Kidney. The patient, a man, forty-four years of age, was admitted into University College Hospital for delirium tremens and for hæmaturia. The hæmaturia was profuse and clots came away when the bladder was washed out. He had had several previous attacks of hæmaturia, but there was no history of renal colic. A tumour could be felt in the region of the left kidney; there were pain in the loin and frequency of micturition. He died from delirium tremens three days after admission. At the necropsy all the organs were found to be healthy except the left kidney and ureter. The ureter was dilated but the lower orifice was normal. The kidney was converted into a hydro-nephrotic sac, which was filled up by blood-clot, some of it recent and some old and laminated. Embedded in the clot was a large calculus one and a half inches in length. There was a villous condition of the pelvis in places and he thought this had been the source of the hæmorrhage. There was no evidence of growth.—Professor GREENFIELD asked if the renal veins were normal, as thrombosis might account for the hæmorrhage.—Dr. BRADFORD, in reply, said that the renal veins were not thrombosed. There was no interstitial hæmorrhage in the remains of the kidney.

Dr. HUGH WALSHAM read a paper on Latent Tuberculosis of the Tonsils the result of an investigation at the Victoria Park Chest Hospital. The inquiry was divided into two parts: 1. Examination of the tonsils and adjacent structures in patients who had died from tuberculosis. In a few cases there were signs of tubercle which appeared to be primary, being more advanced in the tonsil than it was elsewhere. In a large proportion he found evidence of tubercle in the tonsil which he thought to be secondary and to be due to auto-inoculation from the passage of sputum over it. This occurred even when the tonsils were atrophied. 2. Examination of the tonsils and adenoid vegetation removed by operation. In this case there was evidence of primary affection of the tonsils in a few cases, but as a rule the presence of tubercle bacilli could not be demonstrated.—The PRESIDENT remarked on the extreme importance of the paper. It had often been suggested that the tonsils were the point of entrance of the bacilli, but instances of definite tuberculous lesions were certainly far from common, possibly because the tonsils had great power of resistance and of destroying any invading organisms.

Dr. ANDREWES showed a specimen of Hæmorrhage into the Suprarenal Capsule taken from a female infant, fifteen months old, who died after about thirty-six hours' illness. There was a purpuric rash and some spots of commencing molluscum contagiosum. At the necropsy all the organs were found to be normal except the suprarenal capsules, which were both affected with interstitial hæmorrhage. Cultures from the suprarenal capsules, the blood, the lung, the kidney, and the spleen were negative except one from the lung the result probably of accidental contamination. The clinical features were those of an acute toxæmia, but if organisms were present they must have been species which did not grow on ordinary media or stain with ordinary reagents. A similar condition was sometimes seen in guinea-pigs after injection of diphtheria toxin. There were some points of resemblance to hæmorrhagic small-pox, but there was no case of that disease in the neighbourhood before or afterward.

Dr. G. F. STILL showed a specimen of Hæmorrhage and Acute Congestion of the Suprarenal Capsules in Infants from a child, aged fourteen months, who died from acute tuberculosis. The left suprarenal was uniformly infiltrated with extravasated blood, especially the medullary portion. The right was normal. Excluding cases in stillborn infants Dr. Still had only been able to find 18 cases in which acute congestion or hæmorrhage occurred in the suprarenals of infants. In 11 of these there was hæmorrhage and hæmorrhage occurred much more often in the right suprarenal than in the left (3 to 1). The cases were arranged in three groups: 1. Those in which death occurred within a few hours or days of birth. These form the largest group. In some of these the suprarenal hæmorrhage was the immediate cause of death, the capsule being ruptured and the blood escaping into the peritoneal cavity; the symptoms were abdominal pain and collapse. 2. Those in which the suprarenal lesion was a complication of some definite disease, usually of the respiratory tract—e.g., acute tuberculosis, broncho-pneumonia, &c. 3. Those in which after an acute illness lasting only two or three days, usually with a purpuric or bullous eruption, death occurred and the suprarenal lesion appeared to be part of the fatal disease. The etiology of the suprarenal lesion is obscure. In some cases it was certainly traumatic, in a larger number asphyxial, and in the third group almost certainly toxic. Experiments have shown that certain poisons, essence of cloves, Friedländer's bacillus, diphtheric toxin, given by the mouth or by injection, to guinea-pigs produce acute congestion or hæmorrhage in the suprarenals.

Dr. GARROD and Dr. DRYSDALE also showed a specimen of Hæmorrhage into the Suprarenal Capsule of an Infant. The patient was an unvaccinated infant, aged four months, who was brought to the hospital dead. The body, which was well nourished, was covered with a purpuric rash. No membrane was found in the pharynx and larynx and there was no ear disease. Both suprarenals were of a dark, purplish-red colour, but were not enlarged and retained their shape. On microscopical section all parts of the glands were seen to be affected, the meshes of the stroma being in places filled with red corpuscles. There can be little doubt that the disease was the same in this and in the case brought forward by Dr. Andrewes.

Dr. F. E. BATTEN showed a specimen of Hæmorrhage into the Suprarenal Capsule of a child, aged two and a half years, who was taken ill suddenly one morning with diarrhœa and vomiting, which continued during the day and following night. He was taken to the Hospital for Sick Children, Great Ormond-street, next morning, but as the onset of scarlet fever was feared he was sent home. At noon on the same day the child was again taken to the hospital as he had had a convulsion and was still convulsed. On admission the child was comatose, the temperature was 102° F., the pulse was 200, and the respiration was of the Cheyne-Stokes type in character. He had frequent convulsive attacks, the temperature rose to 106°, and the child died eight hours after admission. At the necropsy made ten hours after death, two or three small ecchymoses were found on the floor of the lateral ventricles; the lungs, heart, liver, spleen, and kidneys presented nothing abnormal. The right suprarenal body was much larger than the left and was of a dark purple colour. On microscopical section it was found that the whole suprarenal body was extremely congested with extravasation of blood into the medulla; the left suprarenal appeared to be perfectly normal.—Dr. W. S. COLMAN also mentioned a case. The patient was an infant, about ten months old, who was admitted to the Hospital for Sick Children, Great Ormond-street, in 1893, with acute fever of a day's duration and a bullous eruption which had only been present a few hours. There were a few purpuric spots. The child died about an hour after admission and a necropsy was performed a few hours later. Both suprarenal capsules were found to be affected with a diffuse interstitial hæmorrhage. The other internal organs were healthy. Cultures were made from the suprarenals, from the ventricular blood, and from the fluid in the bullæ. One colony of some cladothrix (almost certainly accidental) was found in one of the cultures from the blood, but the other cultures remained sterile. No organisms were found on staining sections of the various organs.—Dr. VOELCKER mentioned a case which he had seen at the Middlesex Hospital in a child, two years old, who was supposed to be suffering from hæmorrhagic small-pox. Hæmorrhages were found after death in both suprarenal capsules. In nearly all the cases which had been quoted there had been convulsions during the illness. The nature of these was not clear. During last year he had examined the body of a girl who had died in the Middlesex Hospital under the care of Dr. Coupland. During life she had symptoms which suggested strychnia poisoning. The only lesion discovered was advanced

caseation of both suprarenal capsules.—The PRESIDENT observed that the cases bore some resemblances to some forms of phosphorous poisoning due to the administration of small doses for some time. In these cases the onset was often sudden and hæmorrhages occurred into the internal organs, but he did not know that the suprarenal capsules were specially affected.

Dr. FREYBERGER showed a specimen of External Rupture of an Aneurysm of the ascending part of the Arch of the Aorta, taken from the body of a woman, fifty-two years of age, who died in the Great Northern Central Hospital in April, 1898. There was a history of the presence of a lump on the front of the chest for two years, but there had only been pulsation for three months. The tumour rapidly increased in size after her admission and after a week the skin which had become thinned over it cracked and blood oozed out. This oozing increased and she died from hæmorrhage in a few hours. At the necropsy the tumour in front of the chest was found to consist of firm blood-clot lying in an irregular cavity which opened into the aneurysmal sac, which passed through the second internal intercostal space, eroding the rib and cartilage to open into the ascending part of the arch of the aorta.

The following card specimens were exhibited :—

Dr. H. D. ROLLESTON: (1) Pin in the Vermiform Appendix; and (2) Round Pellets in a Dermoid Cyst.

Mr. G. B. JAMES: Primary Sarcoma of the Œsophagus.

Dr. HEBB: (1) Perigastric Cyst; and (2) Cancerous Infiltration of the Pericardium secondary to Cancer of the Œsophagus.

CLINICAL SOCIETY OF LONDON.

Transplantation of Tendon.—Bradycardia following Graves's Disease.—Congenital Heart Disease in a "Mongol" Idiot.—Acute Gangrenous Appendicitis.—Amyotrophic Lateral Sclerosis.—Hemiplegia after Typhoid Fever.—Osteitis Deformans.—Acute Epiphysitis of the Femur.—Estlander's Operation for Empyema.—Gastro-jejunostomy.

A CLINICAL meeting of this society was held on April 29th, the President, Mr. LANGTON, being in the chair.

Mr. F. S. EVE showed three cases in which he had performed the operation of Transplantation of Tendon to correct deformities due to paralysis. The operation was one which had undergone a good deal of modification since it was first devised and he followed the method of Goldthwaite. The method consisted in making a longitudinal incision into the tendon of a paralysed muscle and inserting and fixing into the incision the cut end of the tendon of a muscle which was normal. In many cases, no doubt, this merely acted as a support to a lax tendon as unless the muscle whose tendon was used came from the same group it could hardly be expected that the patient should be able to call it into action except in connexion with the muscles with which it was accustomed to act. One of the patients was a boy, aged nine years, who had paralysis of the external peronei and extensor muscles of the leg as a result of division of the external popliteal nerve, in which recovery had not followed the suture of the divided ends. He therefore divided the tendon of the posterior tibial muscle near its insertion and inserted it into the tendon of the extensor longus digitorum. He then exposed the tendo Achillis and separated a band from it and carried it above the external malleolus and inserted it into the tendon of the peroneus longus. In another case of ordinary infantile paralysis there was extreme talipes equino-varus and complete paralysis of the peroneus longus and nearly complete loss of power in the extensor longus digitorum. Mr. Eve performed an operation for lengthening of the tendo Achillis and also carried the tendon of the tibialis round and inserted its cut end into the tendon of the extensor longus digitorum. There was now hardly any talipes equinus remaining.—Mr. JACKSON CLARKE said that some years ago he had assisted Mr. Noble Smith to insert the tendon of the peroneus longus into the tendo Achillis to correct talipes calcaneus. If there were much contracture of the tendo Achillis it would be advisable to correct this before attacking the other tendons. He thought that the term "tendon re-implantation" was better than those usually employed to describe the operation.

Dr. PASTEUR showed a woman, sixty-five years of age, suffering from Exophthalmic Goitre which had been followed by Bradycardia. The symptoms of Graves's disease followed rather acutely after some gynæcological operation twenty-four years before. The symptoms at that time were typical, her pulse being from 130 to 140 per minute. She also had a goitre, exophthalmos, and tremors. At the present time the goitre had been followed by almost complete atrophy of the gland and the pulse rate had fallen to from 40 to 50 per minute. The only symptoms of Graves's disease which had persisted were the exophthalmos and the tremors. There was definite enlargement of the left ventricle and evidence of some lesion of the aortic valves, probably atheromatous in character. There were no symptoms of myxœdema except that she was extremely sensitive to cold and that her voice was a little suggestive. The heart lesion was similar to that which had been met with in other cases of bradycardia and he thought on the whole that the bradycardia was due to the cardiac lesion rather than to myxœdema.—Dr. A. MORISON was inclined to attribute the bradycardia to the shrinkage of the thyroid gland. The pulse although normally slow became much faster when the patient was excited or nervous, whereas it had been observed in the cases of bradycardia due to organic disease that these variations did not occur.—Dr. ARTHUR DAVIES discussed the occurrence of myxœdema after Graves's disease. He also mentioned several cases of Graves's disease which he had followed up which showed that the prognosis was not necessarily bad.—Dr. DE HAVILLAND HALL had lately seen a patient who had had Graves's disease twelve years ago and now had early though distinct signs of myxœdema.—Dr. PASTEUR, in reply, said that the association of myxœdema and Graves's disease could not be common. The antecedents of patients with myxœdema were always carefully gone into and yet there was hardly ever a history of previous enlargement of the thyroid gland. The possibility of myxœdema had been constantly present in his mind, but there was no definite evidence of it. The patient had been treated with small doses of aconite and with belladonna, with bromide, and later with thyroid extract. The latter did not agree, causing palpitation, and it was given up. The patient had lost weight during her illness, which did not support the idea of myxœdema, but he admitted that the nature of the case was doubtful and he hoped to report the progress at a later date.

Dr. A. E. GARROD showed a child illustrating the association of Congenital Heart Disease with the "Mongol" type of Idiocy. The case was one of a series which he had collected and intended to bring before the society at a later date. The child was sixteen months old and had the typical facies, with sloping eyes, large epicanthal fold, round forehead, large tongue, which was nearly constantly protruded and withdrawn, and had a very brachycephalic skull. In addition she was cyanosed and had marked clubbing of the fingers. There was a loud systolic murmur best heard to the left of the sternum, about the centre of the cardiac area. At this site there was also a thrill. The site of the lesion was uncertain, but it did not seem to be an ordinary case of pulmonary stenosis. Dr. Garrod had observed this association of congenital heart disease with the "Mongol" type of idiocy in seven cases. Such cases did not appear to be met with in idiot asylums, probably because they did not live till the age at which they were admitted to these institutions. There was an article by Dr. John Thomson of Edinburgh in the March number of the *Scottish Medical and Chirurgical Journal* on "Cases of Imbecility in Infancy" in which he mentioned 3 cases in which the association was present. Dr. Garrod had previously pointed out how frequently other malformations were associated with congenital heart disease and therefore the association of mental defect with these cases was interesting to him. The association of heart disease, however, with idiocy in general was rare.—Dr. G. A. SUTHERLAND said that in the last 3 years he had seen 3 cases presenting this association. In 1 which died there was a patent foramen ovale.

Mr. W. G. SPENCER showed a case of Gangrenous Appendicitis in a boy, aged thirteen years, who had had several previous attacks of abdominal pain. The onset of the symptoms in the present attack was sudden, with pain in the right iliac fossa, for which his mother administered castor oil, after which he began to vomit. On admission his temperature was 102° F. and there was acute pain and tenderness in the right iliac region at McBurnie's point. On cutting down in the usual manner he found the appendix kinked on itself and gangrenous. A drop of pus could be squeezed out of it before it was opened, showing how near it was to perforation.

It was removed and the abdominal wall was carefully sutured in layers. Recovery was uneventful. On section the appendix was found to contain a fæcal concretion. Mr. Spencer observed that in young persons appendicitis rarely led to the formation of a perityphlitic abscess, but perforation and peritonitis were rapidly brought about.

Dr. C. E. BEEVOR showed a woman, aged forty-seven years, suffering from Amyotrophic Lateral Sclerosis, who presented the phenomenon of jaw clonus. The illness had begun two years ago with bulbar symptoms and during the last few years she had developed some atrophy of the muscles of the left hand and spasticity of the lower limbs. The knee-jerks and elbow-jerks were much exaggerated and there was well-marked ankle clonus. There was also jaw clonus, a symptom to which he had drawn attention in 1881, and which with one exception he had only met with in cases of amyotrophic lateral sclerosis. The disease was one affecting the upper part of the pyramidal tract, the lower reflex centres being unaffected. Thus although voluntary power over the palate was entirely lost it contracted in a reflex manner when it was touched.—Dr. ORMEROD said that he had seen an exactly similar case in which amyotrophic lateral sclerosis began with bulbar symptoms and in which there was jaw clonus.

Dr. H. D. ROLLESTON showed a man, aged thirty years, suffering from Left Hemiplegia, which occurred on the twenty-fourth day of an attack of typhoid fever. He was a left-handed man and at the onset there was some aphasia. There were no convulsions at the onset. The fever ran a normal course and the hemiplegia had gradually improved. Dr. F. Hawkins had collected 17 cases of this kind and in all the cases in which there was a post-mortem examination there was embolism. Osler had reported 2 cases in which there was cerebral thrombosis, the arteries being affected. In his case he thought that the balance of evidence was in favour of arterial thrombosis. The absence of convulsions was against the view that this could be due to venous thrombosis, but the differential diagnosis between arterial and venous thrombosis was notoriously difficult.—Dr. HERRINGHAM mentioned a case in which hemiplegia occurred in the third week of typhoid fever. Two years later there was still some one-sided weakness and disorderly movement on effort and sometimes some athetoid movement even when the arm was at rest. As regards the question of the probability of thrombosis he mentioned that it was common in cases of typhoid fever to find minute thrombi in the renal vessels.—Dr. FRANCIS HAWKINS said that there were only 8 cases recorded in English literature and of these 4 were in children. More than half recovered and in all of those which were examined post mortem a clot was found in the middle cerebral artery.

Dr. ROLLESTON also showed, for Mr. C. T. DENT, a woman, aged fifty-two years, suffering from Osteitis Deformans. Twelve years ago she had begun to suffer from pain and swelling in the long bones in all four extremities and during the last few years this had increased. Skiagrams were shown which demonstrated considerable thickening and also bending of the bones, so that those of the forearm were seen to be curved like those of the anthropoids. It was generally supposed that most of the cases occurred in men, but out of 45 recorded cases the numbers occurring in patients of either sex appeared to be almost equal. Drug treatment had had no effect in relieving the pain.—Dr. DE HAVILLAND HALL said that in a similar case he had given the patient great relief by the administration of 5 grains of iodide of potassium combined with 2 grains of quinine.—Dr. F. PARKES WEBER mentioned a case in which he had administered iodide of potassium without benefit, but the pains at once diminished after an accident in which the patient broke his thigh.—Dr. LEONARD GUTHRIE mentioned a case in which a woman had this affection almost confined to the lower limbs and in which treatment entirely failed to relieve the pain.

Mr. WALLIS showed an infant, sixteen months old, who had suffered from Acute Epiphysitis of the Head of the Femur leading to the formation of a large abdominal abscess in which the head of the femur was found. The symptoms began acutely and after three weeks there was a large abdominal swelling. An incision was made just above Poupart's ligament and a large quantity of pus escaped. On introducing the finger the head of the femur was found attached to the hip bone by a small shred of membrane, having evidently perforated the acetabulum. Recovery was rapid and there was only ¾ in. of shortening.

Mr. SPENCER showed a young woman on whom he had performed Estlander's operation. The original empyema did not drain well, partly owing to the inaction of the left half of the diaphragm which formed a pocket. Portions of four or five ribs had been freely removed. There was now a large gap in which the pleura was covered by cicatricial skin only. Nevertheless the movements of the chest were good and there was practically no lateral curvature.

Mr. WALLIS showed a woman, over fifty years of age, suffering from Carcinoma of the Stomach, for whom he had performed the operation of gastro-jejunostomy. At the time of the operation the patient was extremely emaciated, but since then she had gained flesh and was able to take ordinary food although the growth remained. The operation was performed under the influence of local anæsthesia produced by the subcutaneous injection of a 4 per cent. solution of eucaine. This solution acted very rapidly and it was unnecessary to wait even a minute before using the knife.

SOCIETY OF ANÆSTHETISTS.

A MEETING of the above society was held on April 21st, Dr. DUDLEY BUXTON, President, being in the chair.

Mr. GRANT MORRIS read notes of the following case. The patient, a woman, aged thirty years, suffered from pain in the region of the left kidney. At the time of admission she looked cachectic and had a trace of albumin which disappeared before the day of operation. She was operated on, an exploratory abdominal section being performed. Ether was given from a Clover's inhaler, but was never pushed; the induction was normal. Towards the end of the operation some cyanosis and a good deal of secretion of frothy mucus appeared; neither was alarming in amount. After sixty-five minutes she was removed from the operating table. She was then cyanosed, the breathing was unimpeded but shallow and sighing, and her condition was thought to betoken the onset of vomiting. Conjunctival reflex was present and the pupils were equal and contracted. Fifteen minutes later she became of a ghastly ashy grey colour, respiration ceased and with it the pulse. Artificial respiration was performed, a large quantity of frothy watery secretion coming away. The necropsy showed the lungs to be full of frothy secretion. Death apparently resulted from failure of respiration due to acute œdema of the lungs set up by the ether.—In answer to the PRESIDENT it was stated that no hæmorrhage into the medulla had occurred.—Dr. SILK had met with a somewhat similar case in which, owing to a large quantity of ether being inhaled, acute œdema had caused waterlogging of the lungs. Artificial respiration in these cases, he opined, did harm.—Dr. STARLING thought the condition of the kidneys might be a factor in producing the acute œdema. He instanced a case supporting his view.—Mr. DAVIS had met with a case in which giving ether to a patient with Bright's disease had been followed by hæmaturia and death in twenty-four hours.

Dr. SILK narrated a case of a patient, aged sixty-five years, in whom after a very brief administration of the A.C.E. mixture (fifteen minutes) jaundice and albuminuria had developed. She had been in hospital eight days and appeared to be free from renal or hepatic disease and in fairly good health. The operation was simply the incision of a mammary tumour causing no shock. Two days after the administration albuminuria was noticed and in a week bile was found in the urine, which persisted for six days. The albuminuria was present for two days longer. Ultimately both disappeared.—Miss ALDRICH-BLAKE had met with severe albuminuria in a child, aged eight years, following a brief administration of chloroform. The condition appeared twenty-four hours after the inhalation and persisted for four days.

Mr. MACCARDIE narrated an instance of Albuminuria following Ether.—The PRESIDENT pointed out that milder forms of jaundice and "biliary upset" were not unfrequent sequelæ of taking anæsthetics, especially in the case of chloroform. With regard to albuminuria recent statistics showed that that condition was more frequent after chloroform inhalation than after ether provided the kidneys were sound.

Mr. CHAPMAN (Tunbridge Wells) communicated the notes of a case of Death following the Exhibition of Chloroform.

Mr. HORACE PECHELL read a paper on Ether Administration. He pointed out the various methods in use and then described the method which he advocated. An Ormsby

inhaler of special construction was used. Two ounces of ether were poured into the bag and the sponge was replaced. The valve was left open but gradually closed and then the ether from the bag becomes inhaled. The administrator then gently tilts the bag, thus wetting the sponge with ether. As toleration is effected more and more ether is allowed to soak the sponge. In giving gas before ether he allows nitrous oxide to be inhaled for 30 seconds and then applies the Ormsby inhaler in the manner described above. Mr. Pechell advocates the semi-recumbent posture for etherisation in dental operations.—Mr. CARTER BRAINE described his method of giving gas and ether. He had tried Mr. Pechell's plan but had found that it destroyed the bag. He exhibited an inhaler which was a modified form of Ormsby's instrument, being adapted for the exhibition of ether, of chloroform, or of the A.C.E. mixture. It was capable of complete sterilisation.—Dr. SILK thought that Mr. Pechell's method was not free from objection. The view that any form of etherisation ought to, or was expected to, produce lividity and cyanosis was, he contended, quite wrong. The posture referred to was commonly adopted amongst anæsthetists.—Mr. BELLAMY GARDNER thought that the amount of ether employed was excessive and that some would probably fall on the patient's face.—The PRESIDENT was surprised that Mr. Pechell had omitted to mention Mr. Clover's method, which was, he thought, superior to all those he had described. No cyanosis or lividity followed its use when the method was understood and properly carried out. It was the only method whereby an unbroken nitrous oxide and ether anæsthesia could be obtained.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Detail in Surgery.—Method of Exposing the Kidney without Division of Muscles, &c.—Recurrent Hæmorrhage from the Ear.—Deciduoma Malignum.—Xerostomia.—Exhibition of Cases and Specimens.

A MEETING of this society was held on April 22nd, the President, Dr. J. BRAITHWAITE, being in the chair.

Mr. PRIDGIN TEALE read a paper on Detail in Surgery, illustrated by operations for hæmorrhoids, which will be found on page 1244 of our present issue.

Mr. MAYO ROBSON read a paper on a Method of Exposing the Kidney without Division of Muscles, Vessels, or Nerves.

Mr. W. H. BROWN read notes of a case of Recurrent Hæmorrhages from the Ear. The patient, a child aged five years, suffered from follicular tonsillitis followed by otitis media and otorrhœa. There was little pain and only slight rise of temperature. Two weeks later, without any obvious cause, free arterial hæmorrhage took place from the right ear, about a pint of blood being lost. The ear was packed with gauze and a compress for four days and a few hours after this was removed a second violent hæmorrhage occurred. A swelling bulging into the soft palate and pushing inwards the tonsil was now noticed and believing that the source of hæmorrhage was the internal carotid artery Mr. Brown ligatured this vessel. No further bleeding took place and the child ultimately quite recovered.

Dr. HELLIER showed the Uterus and Appendages from a case presenting the symptoms and appearances characteristic of the condition called Deciduoma Malignum, also drawings of the recent specimen and microscopic sections of the primary and metastatic growths. He also showed by the lantern photographic reproductions of the drawings published by Sänger in his original paper and by Nové Josserand and Lacroix and others. The patient, aged thirty-nine years, died twenty weeks after an apparently normal confinement. Her main symptoms were continuous hæmorrhage and fœtid discharge. Death resulted from septic pneumonia. There was malignant growth in the fundus uteri, broad ligament, and ovaries, perforation of the uterus and rectum, and secondary growths in the peritoneum and lungs

Dr. SHARP (Whitby) read notes of a case of Xerostomia (Mouth Dryness), which was published in THE LANCET of April 23rd.

The following cases, pathological specimens, &c., were exhibited :—

Dr. CHURTON: (1) A case of Addison's Disease; and (2) Cases from the Wards of the Leeds Infirmary.

Dr. TREVELYAN: (1) Anomalous case of Congenital Cardiac Disease; (2) specimens from a case of Cerebral Abscess; (3) specimens illustrating the Anatomy of the Cerebral Ventricles; and (4) specimen of Enlarged Thymus the probable cause of sudden death.

Mr. LITTLEWOOD: (1) Case of Actinomycosis in a child, with microscope specimens; (2) boy who was impaled on a stake; (3) Gall-stones from a case of Cholecystotomy; (4) Fibro-cystic Tumour of the Uterus removed by Abdominal Hysterectomy; and (5) Malignant Disease of the Penis.

Dr. MANTLE (Halifax): Case of Progressive Muscular Atrophy.

Dr. CHADWICK: Two cases of Pseudo-hypertrophic Paralysis—(1) Hypertrophy with Paralysis; and (2) Atrophy with Contraction.

Dr. CHADWICK and Mr. W. H. BROWN: Specimens from a case of Hydronephrosis (R) with Congenital Cystic Degeneration (L).

Mr. W. H. BROWN: (1) Vermiform Appendix recently removed for Recurrent Inflammation; (2) Hydrocele of the Canal of Nuck; (3) case of Removal of the Jaw for Malignant Epulis; (4) Multiple Keloid; and (5) Lumbar Colotomy six years after operation.

LIVERPOOL MEDICAL INSTITUTION.

The Acidity of the Urine.—Non-diphtheritic Membranous Sore-throat.—Exhibition of Cases, &c.

A MEETING of this society was held on April 28th, the President, Dr. MACFIE CAMPBELL, being in the chair.

A collection of recent radiographs by Mr. THURSTAN HOLLAND and Nine Photographs of Surgical Disease by Mr. THELWALL THOMAS were exhibited.

Dr. T. R. BRADSHAW read a note on the Acidity of the Urine. He showed that litmus could not be employed as the indicator in the estimation of acidity of the urine, because solutions which contained salts of phosphoric acid were never neutral to litmus; if they were not distinctly acid or alkaline they were amphoteric. He advocated the employment of phenol-phthalein as an indicator and maintained that the objections which had been urged against it were not valid. His observations led him to differ from the teaching of Bence Jones and Sir Wm. Roberts, who held that the acidity of the urine was diminished after a meal. He found from the averages drawn from 160 estimations of the acidity of the urine of a healthy man that the acidity followed a fairly regular curve: high during sleep, it fell rapidly after "getting up," and remained at a minimum until about noon, after which it rose steadily and reached a maximum about 9 P.M. He found that the absolute amount of acid excreted varied nearly on the same lines as the relative acidity and, further, that it varied inversely as the volume of urine. The latter was a remarkable circumstance which was unconsciously acted upon by the physician when he gave alkalies to promote diuresis.

Mr. S. KELLETT SMITH read a note on the Dum-Dum Bullet.—Mr. BANKS, Mr. WESTBY and Dr. PERMEWAN spoke.

Dr. J. R. THOMPSON read notes of a case of Non-Diphtheritic Membranous Sore-throat. The illness began with hoarseness and redness of the left posterior pillar of the fauces; on the third day a thin white membranous exudation appeared, covering the left tonsil and left side of the pharynx accompanied by marked malaise and pain in the throat without swelling of the tonsil or lymphadenitis. On the fourth day the membrane was thicker and greyish, and on removal of a portion for examination the mucous membrane bled slightly but was not eroded. The membrane re-formed to some extent. There was an attack of syncope on the fifth day. The temperature ranged between 99° and 102° F. for three days and then became normal. There was no albuminuria and no paralysis. Convalescence was tedious. Bacteriological examination on the fifth day showed a rod-like bacillus, shorter and thicker than the Löffler bacillus, and no cocci, while on the seventh day it showed a bacillus longer than the Löffler bacillus and a net culture of streptococci.—Dr. C. A. HILL thought that the case was one of streptococcal infection, and pointed out that all cases of membranous sore throat were not necessarily due to the diphtheria bacillus.—The PRESIDENT, Dr. WARRINGTON, Dr. LOGAN, and Dr. PETER DAVIDSON spoke.

Mr. RUSHTON PARKER showed a man, thirty-eight years of age, on whom he had performed Amputation at the Hip-joint

for Recurrent Tumour of the Femur. In June, 1895, the patient was admitted into the Royal Infirmary for constant pain in the right hip of some nine months' duration. The diagnosis lay between ostitis and tumour of bone, but in the absence of definite swelling at first that of ostitis was made. A small soft swelling eventually appeared and an incision over the hip-joint was made and a myeloid sarcoma was removed from the head and neck of the femur. The wound healed, all pain disappeared, and for a time a useful limb resulted. Towards the end of 1896 the patient fell in the street and was taken to the Royal Southern Hospital, where he was under the care of Dr. Alexander, who attempted to remove the growth which had recurred. This not proving practicable amputation was proposed. For this purpose the patient placed himself again under the care of Mr. Parker, who amputated at the hip-joint. He is now in good health and apparently free from disease.

Mr. BANKS showed a woman from whom he had removed a portion of a Parenchymatous Goitre and gave a lantern demonstration of Illustrations of Ancient and Modern Surgery.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Diseases of the Nose.

A MEETING of this society was held on April 20th, Dr. CATTLE, the President, being in the chair.

Mr. MACKIE read a paper on Diseases of the Accessory Sinuses of the Nose. After alluding to their anatomical features attention was more particularly directed to suppuration occurring in the maxillary sinus, which he believed to be a more common disease than was generally supposed, fourteen cases having come under his observation in the last fifteen months. Catarrh of the mucous membrane with stenosis of the ostium accounted for the majority, and though cases of dental origin were not infsequent they were less important and quickly recovered after the extraction of a tooth. The distinguishing signs of the disease were pointed out and the value of transillumination as an aid to diagnosis was demonstrated on a patient. In the treatment of recent cases frequent irrigation by a catheter passed through the ostium sufficed to effect a cure; but when the disease was of long duration it was necessary to drill a hole through the canine fossa, subsequently enlarging it with a chisel, and at the same time making a counter opening into the lower meatus of the nose, the cavity being packed with iodoform gauze and treated with an astringent douche. In suppuration of the ethmoid sinuses surgical interference was both difficult and dangerous, but when the employment of a warm nasal douche failed to give relief it was necessary to puncture the bulging ethmoid bone.

Dr. CATTLE, Mr. WILLIS, Mr. COX, and Dr. TRESIDDER took part in the discussion which followed.

TYPHOID FEVER AT EXETER.—At the meeting of the Exeter city council held on April 27th Dr. G. T. Clapp, the medical officer of health of No. 2 district, Exeter, reported that 7 cases of typhoid fever with 1 death had occurred in that division. Most of the patients had partaken of milk supplied by a dairy where the water used for washing the milk cans had, on being submitted to bacteriological examination, showed contamination by animal refuse. The objectionable source of supply had now been closed.

CONGRESS OF HYDROLOGY, CLIMATOLOGY, AND GEOLOGY.—The fifth International Congress of Hydrology, Climatology, and Geology will be held at Liège from Sept. 25th to Oct. 3rd, this city being selected on account of its proximity to the principal Belgian mineral springs (Spa, Chaudfontaine, &c.), rendering it easy for members to visit those localities. Other excursions will include various places of interest, such as Verviers (with especial reference to the reservoir for water-supply), to the seaside bathing establishments at Ostend and other coast towns, and to Aix-la-Chapelle. Applications for membership should be sent before May 15th to the general secretary, Dr. G. Jorissenne, 130, Boulevard de la Sauvenière, Liège, together with a remittance of 20 francs (16*s.*) for members and 10 francs (8*s.*) for wives of members or university students. The northern railway companies of France and Belgium have promised a reduction of 50 per cent. in the fares.

Reviews and Notices of Books.

The Peritoneum. By BYRON ROBINSON, B S., M D. Chicago, Illinois. Part I. Histology and Physiology. With 247 Illustrations. Chicago: C. V. Waite and Co. Pp. 400. 1897. Price $3·75.

THESE are indeed the days of monographs. The handsomely got-up, well-illustrated, and portly volume before us labelled "The Peritoneum" deals only with the histology and physiology of that important membrane. There are still the anatomy, the pathology, and the symptomatology and treatment of its diseases to come, that is, if the promise held out in the preface, "that it is intended to publish in each volume as much bibliography as can be selected from the literature on the peritoneum," be any indication of the future progress of the work. The bibliography appended to this volume is portentous and must have taken much time and research to complete. It extends over 103 pages with upwards of 50 references on each page, making a total of nearly 6000. There can be no doubt in regard to the value of such work, for it greatly facilitates the labours of all those who are engaged in the same line of research and is a good example of what will have to be done for each organ if the immense number of facts which have been observed and recorded in journals are not to be buried in total oblivion. The peritoneum is as a rule rather curtly dismissed by anatomical writers, who of course busy themselves chiefly with its folds and attachments, and still more so by the physiologists, by whom it is merged in their account of serous membranes generally, whilst by the histologists the several elements, as endothelium, lymphatics, nerves, and vessels, are described under separate sections, and it is therefore difficult to state what space is accorded to it; but taking the treatises at hand, such as those of Blandin, Cruveilhier, Quain and Sharpey, Testut, Sappey, Hyrtl, Krause, Aeby, and Poirier amongst the anatomists, and those of Toldt, Stricker, Kölliker, Renaut, Satterthwaite, and Piersol amongst the histologists, we should think about from ten to twenty pages is the limit assigned to it. The appearance of a large work exclusively devoted to it is therefore welcome, especially when written by an original worker, since it is frequently the subject of disease and is almost as frequently exposed to mechanical injury in the course of surgical operations.

There is abundant evidence that the author has taken great interest in his work and that the study of the peritoneum has been to him a labour of love. He has made many original drawings and has treated each constituent of the membrane with great minuteness. In this prolixity is the defect of the volume. It would have been twice as valuable if it had been reduced to half the size. We are continually inclined to say with Falstaff, "Oh, thou hast damnable iteration." The work commences with a historical sketch, which is succeeded by chapters devoted to the membrane as a whole and to its separate elements—as the endothelium, the subperitoneal tissue, the blood-vessels, the lymphatics and nerves, the physiology, and the methods of preparation and examination—and closes with a chapter giving a *résumé* of the whole subject. The author describes in much detail the endothelial cells, or flattened cells with sinuous borders which form the membrane proper, with the stomata at the angles and the pseudo-stomata between the sides or applied margins of the cells. He particularly insists on the double character of the inter-endothelial line and shows that if examined with high powers a space, the inter-endothelial space, lies between the contiguous borders of adjoining cells and that this space is crossed by numerous protoplasmic processes

connecting the cells with each other; it is, he contends, through and along these spaces that leucocytes migrate. He believes the stomata spuria to be actually connective tissue corpuscles or their processes projecting upwards between the endothelial plates.

The stomata vera he entertains no doubt are the apertures of vertical canals which open, on the one hand, into the peritoneal cavity and, on the other, into the subperitoneal lymph spaces; they are in many instances lined by germinal granular polyhedral nucleated cells, whilst others are destitute of these cells. The active processes of absorption take place through both the stomata vera and the inter-endothelial spaces as well as through the blood-vessels, the former openings being particularly numerous in the peritoneum investing the tendinous centre of the diaphragm, where absorption is known to be rapid both for fluids and for solid particles. The peritoneum, owing to the number of leucocytes it possesses, has a limited power of resisting septic germs. The subperitoneal tissue with its blood-vessels and nerves are decribed at great length.

A long and important chapter is devoted to a description of the subperitoneal tissue, a subject which is usually very lightly passed over. Dr. Robinson, with Henle, limits the peritoneum proper to the single layer of endothelial cells which covers the opposed surfaces of the sac. The subperitoneal tissue includes a membrana limitans, fibrous tissue, elastic tissue, areolar tissue, fixed and migratory tissue corpuscles, various kinds of cells, such as vacuolated, branched, fibrillated nerve and fat cells, together with nuclei,—each of these receives a due share of attention. The white fibrous tissue is composed of long wavy bundles and presents two forms; one of these, the reticulated, appears in the omentum. It is liable to atrophy and exhibits holes, due to an atrophic process, which is not well understood, but which, Dr. Robinson has observed, may commence at the age of two years in the human subject. Each bundle is entirely invested with a layer of endothelial cells. The other form consists of parallel wavy bundles arranged in planes. These elements of the tissue can be well seen when freshly mounted in glycerine. The second element is the elastic, the fibres of which are straight and unite with each other in a reticulated manner, the closeness of the network varying much in different parts and in different animals. It is very abundant in the rabbit and in the human subject, in the subserous tissue of the ligamentum latum and in the parts adjacent to the bladder, for obvious reasons. Dr. Robinson describes three forms and alludes to a fourth—Henle's fenestrated membrane. The several forms of the various kinds of cells are fully considered and the accounts of each are illustrated by good drawings which are quite original. The importance of the easily separable planes of the subperitoneal connective tissue in promoting the spread of pus from one region to another is particularly emphasised. Dr. Robinson finds three forms of nerve fibre in the peritoneum—viz., medullated nerves, non-medullated nucleated axis cylinders, and fibres of Remak; the last-named he describes as consisting of a striated, fibrillated nerve axis and a nucleated neurolemma with a probable trace of medullary sheath, and as closely resembling irregular bundles of connective tissue.

Dr. Robinson's style of writing does not recommend itself to us. It is somewhat disjointed, giving to the reader the impression that the casual thoughts of the author have been jotted down as they occurred to him and then strung together to form a paragraph. Passages like the following are frequent: "Pathologic processes make the peritoneum manifest in exudation as in ascites, which experimentation of injecting fluid into the peritoneum makes its absorptive power manifest" (p. 290); "which," we presume, is a misprint for "while"; but even admitting this the sentence runs badly and is barely intelligible. What is to be said of this sentence: "It appears from my experiments that the leucocyte is possessed of wonderful malleability of plasticity of adjustability" (p. 186). Perhaps the two "of's" should be two "or's." Then the correction of the press has been very carelessly done. Here (p. 5), for example, is a quotation under the head of Johann Friedrich Meckel in which that anatomist's work is quoted as "Nova Experimenta et Observationes de Finibres Venosum ac Vasorum Lymphaticorum in Ductus Nisceragne Excretoria Corporum ejusque Structurae utilitate." Dr. Robinson has a curious mode of twisting a sentence so that it looks like a translation from the German with the verb at the end. For example, speaking of the relations of the blood capillaries to the lymphatics, he says (p. 211): "In the interstitial spaces, especially in the amphibia as is noticed in the cut presented, on the turtle the blood capillaries are embedded." No cut, or reference to a cut, is appended. The errors of the press are, indeed, almost innumerable. To mention only a few of the many we have noticed "splinter" is printed for "sphincter" and "diaphram" for "diaphragm." Then, again, we have the "ligamentum peritonei" instead of "ligamenta peritonei," p. 161; "unstripped muscles" for "unstriated," p. 170; "branches" for "branched"; "vacuolation" for "vacuolated," p. 200; "cilibre" for "calibre"; "flummerzellen" for flimmerzelle," p. 251. Pflueger may be right or wrong, but Pflüger spells his name in the latter mode, as anyone who refers to Pflüger's "Archiv" is well aware. "Nucleus" for "muscle," p. 263; "one stomata vera" for "one stoma verum," p. 247; "stomata acts" instead of "stomata act"; "wells" for "walls," p. 271; "laminæ" for "lamina," p. 272; "swelling" for "swellings," p. 273; and "the" for "a"; "*Journ. de la Anat. de la Phys.*" for "*Journ. de l'Anat. et de la Physiologie*," p. 285; "guarded" for "guard," p. 291. The index again is very unsatisfactory, the references being arranged without the least attention to the order of sequence of the letters, so that Ptolemy precedes Peritoneum, Purkinje Paladino, and Rudolph Radiation—in fact, the references are thrown in anyhow, necessitating the perusal of every item under each initial letter to discover any particular reference. Even the word "Peritoneum," which might be expected to be correctly indexed, is split up into three parts, whereof the first gives 5 references, the second 16, and the third 15, each entry being separated by other headings. In like manner there are five distinct headings of "Endothelia," all of which should have been grouped under one. Notwithstanding these blemishes, which will no doubt be removed when another edition is called for, the work will prove serviceable to histologists and physiologists as an epitome of the present state of our knowledge of this extensive and important membrane, and there can be no doubt that in these days of laparotomy, hysterectomy, and other formidable operations, the details both of the anatomy and physiology of the peritoneum should be familiar to every surgeon.

Researches on Tuberculosis: The Weber-Parkes Prize Essay, 1897. By ARTHUR RANSOME, M.D., M.A. Cantab., F.R.S. London: Smith, Elder, and Co. 1898. Price 2*s.* 6*d.* net.

THE subject chosen for the essay in the first triennial competition for the prize founded by Dr. Hermann Weber for bestowal by the Royal College of Physicians of London was as follows: "The Means, Prophylactic or Curative, deemed by the Author to have Value in the Control of Tuberculosis, especial regard being had to their application to Human Tuberculosis." The successful essay is now published and it cannot be said to ignore any of the issues of this far-reaching subject. Hence perhaps its somewhat condensed form and didactic expression, but it teems with information and contains many original observations. In order to give some idea of the

scope of the essay it will suffice to enumerate the chief departments into which the author has divided his subject, each one of which could well be expanded into an essay of equal length with that which here treats of them all. These divisions are:—(*a*) the Past and Present Prevalence of Tuberculosis in this Country and its Fatality—where it is shown how regularly and almost uniformly has been the fall in the death-rate from this disease during the past half century. (*b*) The Distribution of the Disease in Nations and in Local Areas—which proves clearly that density of population is a prime factor in its prevalence. (*c*) The Natural History of the Bacillus of Tubercle, its Nature, its Habits, Forms, Products, Degrees of Virulence, and the Influence of External Conditions upon its Growth and Infective Power. This section contains several very interesting inquiries undertaken by the author as to the conditions favourable to the development of the bacillus outside the body, especially the influence of organically charged vapours when removed from the air and light. (*d*) Bodily Predisposition, Natural or Acquired. It is of interest here to find Dr. Ransome expressing a strong doubt as to the alleged close relationship between pleurisy with effusion and tuberculosis. (*e*) The Channels and Sources of Infection. In this chapter is ably summarised the existing knowledge of the modes of tuberculous infection, the commonest of course being the inhalation of dried tuberculous dust; next, that of the ingestion of infected food, as well also of "dust" from the atmosphere; next, inoculation through the skin; rarer still, direct infection by the generative organs; and, he adds, significantly, "direct infection from the breath of phthisical persons is probably the rarest of all." Two cases of "mixed infection" in which anti-streptococcic serum was injected without avail are related. (*f*) The Conditions and Limits of the Power of Infection form the next heading, whilst the final section deals with Preventive and Prophylactic Measures and also with the Dietetic and Medical Treatment of the Disease. Thus the subject is completely surveyed and with much skill, so that the essay constitutes a valuable contribution to literature which cannot fail to be consulted by all subsequent students of this universal malady.

The Tallerman Treatment by Superheated Dry Air: Case Notes and Medical Reports, with numerous Illustrations. Edited by ARTHUR SHADWELL, M.A., M.B. Oxon., M.R.C.P. Lond. London: Baillière, Tindall, and Cox. 8vo, pp. xii. and 173. 63 Plates. 1898. Price 3*s.* 6*d.* net.

MANY endeavours have from time to time been made to utilise high temperatures in the treatment of disease, and in several instances a certain measure of success has followed these attempts; but the temperature attained by these methods has never reached any very great height and, in fact, in no case has it approached the boiling point of water. The failure we now know was due to the fact that the heat was applied either by means of steam or, if dry air were at first used, it became very quickly saturated with moisture by the increased perspiration of the part treated, so that practically steam was applied in this way also. Now, it is not possible for any of the tissues of the human body to endure watery vapour at a temperature at all near the boiling point of water, though if the heat is applied by means of air which is perfectly dry far higher temperatures can be borne, but the difficulty consists in maintaining the dryness of the air in spite of the greatly increased evaporation from the surface of the body. It is in the solution of this difficulty that the merit of Mr. Tallerman's invention chiefly consists; he has devised an apparatus by which the air is kept really dry and in this way a limb or a part of a limb may be exposed to temperatures varying from 200° to 300° F. without any discomfort. The local effects of the high temperature are to dilate all the cutaneous blood-vessels, to stimulate the circulation of the part, and to relieve pain. The general effects are to dilate the superficial vessels, to increase the pulse-rate and the force of the heart's action, and to raise temporarily the general temperature of the body. This increase of temperature may amount to two or even to three degrees Fahrenheit. So far we have considered only the means by which these high temperatures have been rendered possible and their physiological results. The therapeutic value of the method remains to be dealt with. The method is undoubtedly of value in several forms of joint disease, especially in chronic rheumatism and rheumatoid arthritis which are so little amenable to ordinary treatment, and in this book many cases are recorded in which other diseases, such as peripheral neuritis, chronic ulcers, and flat-foot have been benefited. The treatment has been employed fairly extensively, but is certainly deserving of being more widely known. Of course, it is not a panacea and time will enable us to distinguish what cases are likely to derive benefit from it. The power of relieving pain is sometimes very great, and the increased freedom of movement in chronic joint disease is equally remarkable. The book contains notes of a large number of cases in which the apparatus has been employed and in many instances photographs are given of the patients before and after treatment. Mr. Tallerman is to be greatly commended in that he has not endeavoured to bring his invention before the public but has confined its employment to the members of the medical profession. We feel sure that before long the Tallerman method of applying air at high temperatures to diseased portions of the body will take the place it deserves in the estimation of medical men as the most satisfactory method at their disposal of treating many hitherto very intractable morbid conditions.

A Catechism of Palmistry. By IDA ELLIS. London: George Redway. Pp. 155. Plates, 19. 1898. Price 2*s.* 6*d.*

PALMISTRY has become a fashionable amusement for "at homes," &c.; and for those who wish to amuse their friends by telling them what they wish to hear or to annoy others by endowing them with characteristics the reverse of pleasant a good deal of information will be found in this volume. It is written entirely in the form of question and answer, which makes it easy of reference but not pleasant to read. Regarded, however, as a "scientific" work, as it pretends to be—"the sciences of chirognomy and chiromancy explained"—it is simply absurd. Scraps of truth are mixed up with ridiculous ignorance. The following is an example: Q. "What is the cause of lines being produced in the palm of the hand?" A. "Its extreme sensitiveness, for in the hand the nerves are far more numerous than in any other part of the body except the tongue, and in the palm the nerves are more in number than in any other part of the hand; this accounts for the very keen sense of touch which the palm possesses and it also accounts for the readiness of the palm to register the internal heat of the body, for in a fever the hand becomes very hot though the rest of the body may be cold. There are proofs that the nervous fluid from the brain acts directly upon the hand," &c. The writer would have been wiser to confine herself to a description of the "lines of the hand" and their supposed significance than to talk such nonsense about physiology. Our readers may know whether or not they have mistaken their profession by the following question and answer: "What is the appearance of a successful doctor's hand?" "The mount of Mercury should be full and three clear, upright lines upon it, the line of Fortune clearly traced, the mount of Moon well developed to show love of discovery, and for a surgeon the hand should also be rather hard and the fingers square or spatulate."

LIBRARY TABLE.

Lehmann's Medicinische Hand-Atlanten. Band VI., Zweite Ausgabe. *Atlas der Syphilis und der Venerischen Krankheiten.* Von Professor Dr. FRANZ MRACEK. München: J. F. Lehmann. (*Lehmann's Medical Handy Atlases.* Vol. VI. Second edition. *Atlas of Syphilis and Venereal Diseases.* By Professor F. MRACEK. Munich: J. F. Lehmann.) 1898. Price 14s.—The series of manuals which is being issued by the firm of J. F. Lehmann of Munich has already received a favour which has been thoroughly well deserved. More than one of these handy atlases have been issued in a second edition and as five additional volumes are announced to be in preparation, giving a total of twenty-two, it will be seen that the ground covered by them is considerable. Each volume contains a large number of coloured plates and in several there are also additional figures in the text, but the text is here subordinate to the main purpose of the book, which is that of an atlas. The present volume constitutes a fairly compendious and useful guide to the lesions of syphilis in its various stages, there being no fewer than seventy-one plates. Most of these are well executed and characteristic, their value being enhanced by the appended descriptions giving the clinical history of each case from which the drawing was made.

Le Phénomène de l'Agglutination des Microbes et ses Applications à la Pathologie. Par le Dr. RAOUL BENSAUDE. (*The Phenomenon of Agglutination of Microbes and its Applications to Pathology.* By Dr. R. BENSAUDE.) Paris: G. Carré et C. Naud. 1897.—That a monograph of nearly 300 pages could be based upon the single fact of microbic "agglutination" bears eloquent testimony to the extent to which bacteriology at present holds the field. The work is not merely historical; it is also well furnished with personal observations by the author, Dr. Bensaude. The infective diseases in which this property of blood serum has been established are of considerable number and its application to diagnosis has been employed in several. It is, however, in typhoid fever that it is most reliable. In the majority of cases the reaction can be obtained early in the disease; in a few it may not appear until defervescence or later, when, of course, its clinical utility is small. Dr. Bensaude, whilst stating that a negative result of the test does not necessarily exclude typhoid fever, considers that it yet affords strong probability against it, and he particularly mentions that the test has been of undoubted value in the early diagnosis of typhoid fever from the typhoid condition that may accompany other disorders, such as tuberculosis and influenza.

Recent Materia Medica. By F. HARWOOD LESCHER, F.C.S., Pereira Medallist, &c. Fifth edition. London: J. & A. Churchill. Pp. 219. 1897.—This is a useful volume for reference, containing as it does all the drugs and preparations recently introduced and also a description of "drugs occasionally prescribed." A considerable quantity of new matter has been introduced into this edition. Modern chemical synthesis has given us many new drugs and bacteriological investigations have produced serum cultures and antitoxins, whilst physiological research has furnished many organic animal extracts. The work is very well brought out and the type is good and clear. Under each preparation will be found its chemical formula (when known), its synonyms, its physical properties, its therapeutical properties, and the dosage.

JOURNALS AND REVIEWS.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., and W. F. R. WELDON, F.R.S. London: J. and A. Churchill. 1898. Vol. XLI. Part I. Price 10s.—This part contains five memoirs which are: 1. The Habits and Structure of Arenicola Marina, by F. W. Gamble, M.Sc., and J. H. Ashworth, B.Sc., of Owens College, Manchester, with five plates. Although this animal has been well described by various observers the carefully and accurately drawn up description given by Mr. Gamble and Mr. Ashworth is not the less acceptable. They find that there are two forms or varieties, one of which is the "lug" or common shore lugworm, whilst the other is found on the Lancashire coast—at least, at the upper part of the Laminarian zone—and is large and better-developed than the former. They constitute the scavengers of the sands and the authors of the article quote from Mr. Davison who finds that on Holy Island sands the entire layer of sand to a depth of two feet passes once in twenty-two months through the bodies of the lugworms which live in it, and that in a year the average volume of sand per acre which is brought to the surface in the form of castings is 1911 tons. The drawings which accompany this memoir are very carefully made from dissections. 2. The Aseptic Cultivation of Mycetozoa, by Caspar O. Miller, M.D., with two plates. The forms of the mycetozoa which are here dealt with are physarum cinereum and stemonitis and illustrations are given of the spores of Chondrioderma and Ceratium porioides. 3. On the Development of Tubulipora and on some British and Northern Species of this Genus, by Sidney F. Harmer, Sc.D. It is here shown that a process of embryonic fission is of normal occurrence in Cyclostomatous Polyzoa; with two plates. The memoir treats of the structure of the colony and of the ovicell; the history of the species and genus; the diagnosis of the species; the nature of certain vesicles found in the tentacles; an account of the development; and, finally, the morphology of the internal parts of the ovicell. 4. The Mollusks of the Great African Lakes, by J. E. S. Moore. The author finds that there are twenty-four genera. Lake Nyassa, which is about 340 miles in length, and from 20 to 40 miles across, is of unknown depth, no bottom being found through a great part of its area, with soundings of 300 fathoms. The coast is swept in many parts with a heavy surf and the molluscan portion of the population thins out quickly beyond 100 feet of depth. Many parts are uninhabited. Lake Tanganyika is much shallower and thirteen genera were found. 5. In a second memoir, Mr. Moore gives the Anatomy of the Typhobias with a description of the new genus Bathanalia, with two plates.

The Journal of Anatomy and Physiology. Conducted by Professor Sir WILLIAM TURNER, Professor D. J. CUNNINGHAM, Professor A. MACALISTER, Professor J. G. M'KENDRICK, and Professor G. D. THANE. Vol. XXXII. Part III. 1898. London: Charles Griffin. Price 6s.—The articles contained in this part are both numerous and valuable. They are as follows. 1. Sir William Turner, F.R.S.: An Account of a Decorated Sculptured Human Skull from New Guinea. The form of the skull was hyperdolichocephalic, its length-breadth index was very low, not exceeding 68. The sculpture was a rude resemblance to the human face carved on the frontal bone. 2. Richard Assheton, M.A.: An account of a Blastodermic Vesicle of the Sheep of the Seventh Day with Twin Germinal Areas, with a plate. 3. Sir William Turner, F.R.S.: Moderator Band in Left Ventricle and Tricuspid left Auriculo-ventricular Valve. 4. Gordon Sharp, M.D. Edin.: Spontaneous Cure and Torsion of Aneurysm in a Sheep. 5. D. A. Welsh, M.A., M.D. Edin.: Concerning the Parathyroid Glands: a critical, anatomical and experimental study, with a plate. The importance of these glands is shown by the serious or fatal results which follow their complete ablation. 6. N. Bishop Harman, B.A., M.B.: The Caudal Limit of the Lumbar Visceral Efferent Nerves in Man. This he finds to be at the level of the twenty-second spinal nerve, which is usually the second lumbar. Many drawings accompany and illustrate his article and show that much labour has been spent on the requisite dissections. 7. Wakelin Barratt, M.D. Lond.: On the Anatomical Structure

of the Vagus Nerve, with five plates. The plates show the appearances presented by sections of the vagus at different heights. 8. F. G. Parsons, F.R.C.S.Eng.: The Muscles of Mammals with Special Relation to Human Myology. This article is the first lecture of a course of lectures delivered at the Royal College of Surgeons of England. 9. Arthur Keith, M.D. Aberd.: A Preliminary Investigation of the Influence of Body Posture on the Position and Shape of Abdominal and Thoracic Organs—an interesting article, which contains many details that are of importance to the clinical observer. 10. A. Birmingham, M.D. R.U.I.: The Shape and Position of the Bladder in the Child. 11. R. Tait Mackenzie, B.A., M.D.: Natural Selection as Shown in the Typical Speed Skater—a very instructive article, showing the influence of special kinds of exercise on thews and sinews. 12. R. Broom, M.D. Glasg.: On the Arterial Arches and Great Veins in the Fœtal Marsupial. 13. Edward J. Bles, B.Sc.: The Correlated Distribution of Abdominal Pores and Nephrostomes in Fishes. 14 Walter H. Gaskell, M.D. Cantab.: On the Origin of Vertebrates deduced from the Study of Ammocœtes, with a plate. In this article Dr. Gaskell supplies a large amount of additional evidence in favour of his view of the origin of vertebrata from arthropods through the larval form of the lamprey. 15. A. M. Paterson, M.D. Edin.: The Genito-urinary Organs of the Female Indian Elephant, with two plates. 16. Alfred Young, M.B. Edin., and Arthur Robinson, M.D. Edin.: On the Development and Morphology of the Vascular System in Mammals, the Posterior End of the Aorta and the Iliac Arteries. In an editorial note it is stated that the editors intend to effect certain improvements, especially in the matter of illustration, and they earnestly desire that the journal may be placed on the list of books to be purchased by many public libraries in universities and other scientific institutions which are at present non-subscribers. The value of the communications made to this journal render such a request quite reasonable and legitimate and it is to be hoped that the librarians and library committees will see that the proposal is carried out.

Scottish Medical and Surgical Journal.—In a lengthy paper on the Occurrence of a Non-allantoic or Vitelline Placenta in the Human Subject Dr. J. W. Ballantyne (Edinburgh) gives an illustrated description of a sireniform fœtus—i.e., one in which the legs and feet are fused in a single lower limb. Dr. G. Halley (Dundee) writes on Perforating Ulcers of the Foot; and Dr. R. O. Adamson (Glasgow) on the Symptoms of Perforated Gastric Ulcer. Dr. Alexander Johnston (Methven) contributes a short report of two cases of Puerperal Fever treated with anti-streptococcus serum. There are four other original communications.

Edinburgh Medical Journal.—The opening paper is a Clinical Lecture on Pleural Effusion, by Dr. T. Lauder Brunton. Dr. G. A. Sutherland describes four cases of Fragilitas Ossium Scorbutica in Young Children; the pathology of the disease is that scorbutic extravasation of blood under the peritoneum leads to its detachment from the bone. Dr. A. Logan Turner writes on the Illumination of the Air Sinuses of the Skull. He used a five-candle electric lamp mounted on a tongue depressor and inserted in the mouth. If the person under examination closes his eyes the perception of light may become obvious to him in one or both of them. Altogether there are eight original articles.

Dublin Journal of Medical Science.—The titles and authors of the original communications are as follows: Recurrent Idiopathic Pneumothorax, by Dr. J. Magee Finny; a Study in the Surgery of Joints, by Mr. J. S. McArdle; the Housing of the Poor in Dublin, by Dr. H. C. Tweedy; and the first portion of the Clinical Report of the Rotunda Lying-in Hospital for Three Years, from Oct. 1st, 1893, to Oct. 1st, 1896, by Dr. W. J. Smyly. During this period 4006 women were confined in the hospital, with 14 deaths, and 6273 were confined at their own homes.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ordinary Comitia of the College was held on April 28th, the President, Sir SAMUEL WILKS, Bart., being in the chair.

The following gentlemen were admitted to the Membership of the College: E. G. E. Arnold, M.B. Durh., G. B. Hunt, M.D. Lond., W. Lamb, M.D. Edin., E. Playfair, M.B Lond., and H. B. Shaw, M.D. Lond.

Licences were granted to the 93 candidates who had passed the recent examinations.

A letter was read from the family of the late Sir Richard Quain thanking the College for their sympathy.

A letter was read from Dr. G. V. Poore offering for the acceptance of the College a manuscript copy of the letter-book of Dr. Thomas Wharton, comprising letters to his son when at college in 1673, the transcript having been made by permission of Mr. Wharton, M.P.—Dr. GEE, the Senior Censor, moved a vote of thanks to Dr. Poore, and in seconding the motion Dr. PAYNE remarked that he had had an opportunity of reading the letters which threw an important light on the condition of the medical profession at that period.

A communication from the secretary of the Royal College of Surgeons of England was read reporting the proceedings of its Council.

A communication from the General Medical Council was read calling attention to the results of a competition in November last for appointments in the Medical Service of the Navy and to deficiencies shown in general education.

Communications were read concerning the subject of legislation for midwives from the secretary to the "Midwives Bill Committee" and from the secretary of the British Medical Association, who forwarded a copy of a proposed "Midwifery Nurses Bill" with an explanatory statement and memorandum. These communications were referred to the committee of the College appointed to deal with this question, the members of which were nominated by the President as follows: Sir W. Priestley, M.P., Dr. Playfair, Dr. Champneys, Dr. Black, Sir R. Douglas Powell, Dr. Dickinson, Dr. F. Taylor, and Dr. Duffin.

Dr. Poore and Dr. Corfield were nominated delegates to the Congress of the Sanitary Institute at Birmingham in September.

A communication from the Dean of the medical school of Guy's Hospital was read conveying a resolution adopted by a meeting of teachers to the effect that it is undesirable for any changes to be made in the regulations of the first examination without previous consultation with examiners and teachers. It was explained by the President and the Registrar that this was the course which was followed when any changes were in contemplation.

The ballot was then taken for the election of Fellows and the following Members proposed by the Council were declared elected and will be admitted at the next meeting of the College: William Richard Huggard, M.D. R.U.I., Switzerland; Oswald Auchinleck Browne, M.D. Cantab.; Charles Joseph Arkle, M.D. Lond.; Joseph Wiglesworth, M.D. Lond., Prescot; William Bramwell Ransom, M.D. Lond., Nottingham; Frederick Parkes Weber, M.D. Cantab.; Harry Johnstone Campbell, M.D. Lond, Bradford; Horace George Turney, M.D. Oxon.; George Redmayne Murray, M.D. Cantab., Newcastle-on-Tyne; Arthur Newsholme, M.D. Lond., Brighton; Benjamin Arthur Whitelegge, M.D. Lond.; and John Francis Walkingame Tatham, M.D. Dub.

Dr. NORMAN MOORE presented two reports from the Committee of Management dated March 7th and April 1st and moved their adoption, reserving recommendation No. 4 in the first report for separate consideration. The reports with that exception being adopted Dr. Moore next proposed the adoption of the clause in question. In this section of their report the committee point out that although students were encouraged to complete their studies in chemistry, physics, practical chemistry and biology before entrance on the professional course proper, and although certain institutions had been recognised as suitable places of instruction in these subjects, there was little gained by the student, who was still required by the regulations to go through a course of five years at a medical school, no matter whether he had been registered previously or not. In the case of students who enter at a recognised medical school

immediately after passing their preliminary examination the five years of study commence to count at once, although the first of those years may be spent solely in receiving instruction in chemistry, physics, practical chemistry, and biology.

The committee suggest that the regulation should be altered so that "the first of the five years of the curriculum may be spent in obtaining instruction in chemistry, physics, practical chemistry, and biology, either at a recognised institution or at a recognised medical school, and that the candidate be required to spend four winter and four summer sessions from the date of passing Parts I. and III. of the first examination at a recognised medical school and hospital before entrance to the examinations in medicine and surgery. In relation to this suggestion the committee would remind the Royal Colleges that great care has been taken in selecting the institutions placed on the recognised list, some being recognised for chemistry, physics, and practical chemistry only and others for biology as well. In the case of students attending the former class of institution the committee propose that not more than six months of the curriculum shall be allowed to count, but in those cases where biology is also taught the full period of a year should be recognised."

Dr. NORMAN MOORE pointed out that a similar practice was in vogue at the Universities of Edinburgh, Glasgow, and St. Andrews, whilst the University of London did not require of candidates for the preliminary scientific examination that they should study at any recognised institution, and that having passed that examination they could take the medical degree after four years' study in a medical school. The motion was seconded by the Senior Censor.

Dr. PAYNE pointed out the importance of the question, which amounted to granting permission for the first year of "medical study" to be passed at school. He did not mean to say that it should be obligatory on the student to receive his instruction in these subjects at a medical school, but he deprecated the inclusion in institutions for this "first year of professional study" of places such as technical schools and higher grade board schools, which although recognised as science schools by the Science and Art Department of South Kensington could hardly be regarded as places of liberal education suitable for the preliminary studies which gave entrance to the medical profession. He would move that institutions of the class he had referred to be excluded from the proposed recognition as places of professional study.

The REGISTRAR said that the committee's recommendation was quite in accordance with the regulations of the General Medical Council. He would be very sorry to see the chances for distinction being removed from scholars of technical and higher grade schools and mentioned an instance where one whose career commenced at such a school had graduated in medicine at the London University and obtained the Membership of the College.

Dr. NORMAN MOORE, in reply to Dr. Payne's criticisms, said that no institution was recognised until it had been thoroughly investigated and he claimed that many of the schools in question were far better equipped in laboratories than most medical schools. The medical schools had been consulted upon the desirability of the proposed change and had practically concurred in it.

On the motion of Dr. CHURCH, seconded by Dr. LEE, the debate was adjourned to the next meeting of the College.

New Inventions.

THE DÉCHERY AUTOMATIC CAUTERY.

THIS apparatus resembles other cauteries only in that it utilises the incandescent properties of platinum. The bellows and benzoline reservoir of the ordinary thermo-cautery are rendered unnecessary, as the instrument works automatically, a minute stream of ether, projected into the previously heated platinum knife or point, supporting incandescence, which may be sustained for a period of from thirty to forty minutes, the consumption of ether meanwhile being only half an ounce. The cautery should be absolutely safe in use, being made throughout of metal, with an insulating cover to protect the operator's hand from heat, and in manufacture, we are informed, each instrument is tested by being subjected to an internal pressure equal to ten atmospheres, that occurring in actual use not exceeding three.

FIG. 1.

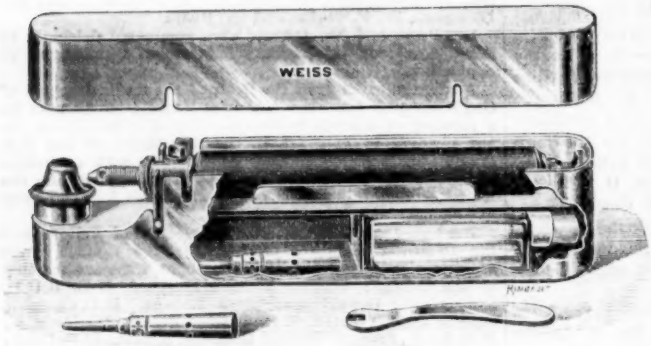
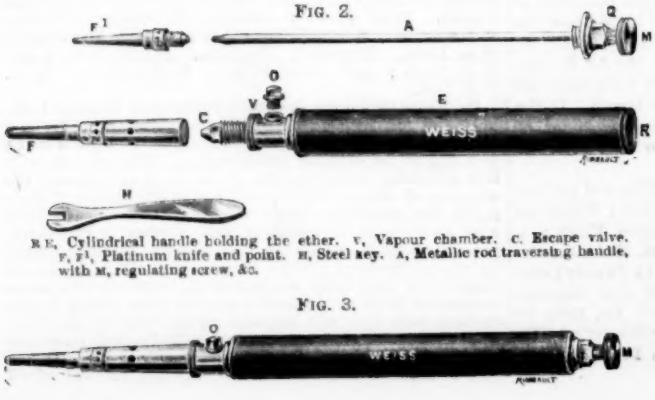


FIG. 2.



R E, Cylindrical handle holding the ether. V, Vapour chamber. C, Escape valve. F, F1, Platinum knife and point. H, Steel key. A, Metallic rod traversing handle, with M, regulating screw, &c.

FIG. 3.

The apparatus as submitted to us is very portable, being contained in a metal case 10 in. by 1½ in. by 2 in. deep.

To use the cautery the screw-stopper marked O is removed by means of the key H and the reservoir is filled with ether or a mixture of ether and alcohol, an ether bottle with a curved nozzle being supplied with the instrument. The stopper must be firmly replaced. The milled head M being firmly screwed home, the instrument is held with the point obliquely downwards and that part containing the vapour chamber V is placed in the flame of a spirit lamp for about two minutes (or less—according to the season), when small flames will be observed to issue from the air-holes below the platinum part. The valve is opened by slightly turning the milled head M to the left, the point being held in the flame until a sound of rushing air is heard. Should any flame now remain it may be blown out and the instrument should be reversed a few times in order to equally distribute the heat internally. It may at this stage be necessary to again heat the vapour chamber portion. By manipulation of the regulating screw M the desired degree of heat at the point may now be sustained. Following the above directions we have tested the Déchery Automatic Cautery and consider it a valuable instrument, being strong, neat, and portable, while its use certainly minimises the risk of accidents. The inclusive price of the apparatus is £5 5*s.* and the makers are Messrs. John Weiss and Son, 287, Oxford-street, W.

THE LANCET.

LONDON: SATURDAY, MAY 7, 1898.

PUBLIC honour is but rarely done to the medical profession, so that it is with particular pleasure that we record the fact that the dinner given by Colonel H. D. DAVIES, M.P., the Lord Mayor of London, "to meet the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, and other members of the medical profession," was an unqualified success. The dinner was carried out in the true spirit of great civic hospitality, wherefore all the guests were happy as well as honoured, a conjugation of events by no means necessarily present in all semi-public functions, although a conjugation which may be looked forward to with certainty when the host is the Lord Mayor of London. We desire to congratulate his Lordship and his able secretary, Mr. W. J. SOULSBY, C.B., on having given to a representative assembly of medical men a very pleasant evening; while on the wise and graceful sentiments that prompted his Lordship thus publicly to honour the Presidents of the two Royal Colleges, of which so large a proportion of English medical men are diplomates, we must say more than a few words of perfunctory praise.

We members of the profession of medicine stand at the present moment in need of conspicuous support. In all directions our calling has enlarged its boundaries and in all directions it is seeking further to enlarge them. Take one example only. The medical work of the Local Government Board, enormous as it is, is the growth of comparatively few years and assuredly will develop at an even greater rate than it has hitherto developed. But this sturdiness of growth, this irresistible tendency to annexation, has not been, and will not be, regarded complacently by all. Every extension of the work of State medicine means an invasion of provinces where private or, at any rate, non-sanitary interests have previously been paramount. Therefore every extension is and must be regarded by a certain section of the population as an act of raiding and as a consequence provokes a spirit of opposition to those entrusted with the duty of carrying it out. The bitter and unworthy comments which certain of our lay contemporaries do not hesitate to make, and to make with wearisome reiteration, concerning the profession of medicine is the outward expression of this spirit of opposition; and although a wise majority of our fellow citizens can detect in the strictures of those whose policy is always to be "agin the doctor" an ignorance that should detract wholly from the force of the criticisms, yet it undoubtedly does harm to the profession as a whole that it should be perpetually reviled. A dinner such as that given by Colonel DAVIES on Wednesday evening is therefore particularly opportune. The leaders of commerce do not take much upon trust, for if they did they would not long remain leaders of commerce. Looking upon the Lord Mayor of London — in virtue of his office as the Chief Magistrate of the largest city that the world has ever known—as the type and figure-head of honourable and shrewd business achievement we may regard his public desire to honour our profession as a proof that we enjoy the confidence of commercial England, and that while they recognise in this or that great man a discoverer, an operator, a writer, or a thinker whom they may single out by name for particular respect, they recognise also in the medical profession as a whole a body of men who do arduous work of a value to the nation which cannot be commercially estimated and much of which is not in the least adequately rewarded from a business point of view. Colonel DAVIES'S splendid compliment to the President of the Royal College of Physicians of London and the President of the Royal College of Surgeons of England constitutes a pledge of the trust which is reposed in the medical profession by responsible citizens.

It is nearly seventeen years since the medical profession received the hospitality of the Mansion House. The occasion then was the dinner given by Sir WILLIAM MCARTHUR to 300 members of the Seventh International Medical Congress which met in London in 1881 under the presidency of Sir JAMES PAGET. The guests on that occasion included such world-wide celebrities as PASTEUR, VON LANGENBECK, DONDERS, KLEBS, CORNIL, CHARCOT, ESMARCH, BILLINGS, BIGELOW, BROWN-SÉQUARD, and TARNIER—to mention a few of the names which crowd in on our memory and which, alas, in several instances, bring with them feelings of respectful regret that death has set a limit to their owners' achievements. Colonel DAVIES may not have been able to secure at his board a company quite so brilliantly representative of the highest flights of medical science as were the guests of the late Sir WILLIAM MCARTHUR, for there was no international collection of talent upon which to draw; but the assembly of last Wednesday night was one of which the medical profession may justly feel proud, comprising as it did many men the value of whose services to the State cannot be priced. And for another reason, apart from the facts that this was the first public dinner ever given by a Lord Mayor to MEDICINE and that the guests were so truly representative of medicine in all its many sides, the dinner of May 4th will be a memorable one. For, as will be seen in another column, the Marquis of LANSDOWNE, the Secretary of State for War, made of his speech, in reply to the usual complimentary toast "The Army," an occasion to formulate the concessions which his department are prepared to make to the Army Medical Staff. The Lord Mayor's dinner will, indeed, be a feast of great and fortunate outcome if the words spoken at it by Lord LANSDOWNE should prove, as to our thinking they must prove, the exposition of a scheme for the immediate and practical redress of the grievances of the Army Medical Staff.

THE question of the teaching of the preliminary sciences to intending medical students during their school curriculum is once more under discussion at the Royal College

of Physicians of London, and it is one that cannot be easily settled without acting unequally on various classes of pupils. If a student leaves all his science subjects until he enters a medical school and is then registered as a medical student he has a five years' curriculum before him, and the various stages in his career are laid down with precision and exactness by the examining bodies. In such cases the courses must be taken in the same order practically for the licences of the corporations as for a university degree, although the examinations may differ in severity. In other cases the pupil may be at a school of a first-class grade, where he can be taught the medical preliminary sciences—chemistry, physics, and biology—as thoroughly as at a medical school. He will have efficient masters and completely equipped laboratories, and can be instructed under a more stringent routine and with less distraction than in a medical school. There are many such science schools where these three subjects are taught thoroughly and they are recognised by the authorities of the Conjoint Examining Board in England. The pupils in these schools are registered as medical students and the year's work in these sciences reckons as the first year of the medical curriculum. We understand that all the schools of science in which the three preliminary sciences of chemistry, physics, and biology are now taught register their science pupils as medical students.

But in addition to the schools in which the whole of the scientific curriculum preliminary to a medical career is taught there are a number and a far larger number in which the teaching of chemistry and physics only are recognised by the Conjoint Examining Board. It is obvious that many schools and institutions can give efficient teaching in chemistry and physics, whilst proper instruction with demonstrations of laboratory work in biology would be impossible. Those students, however, who have been instructed in chemistry and physics only—or perhaps but one of these subjects—before entering at a medical school are also registrable as medical students under varying conditions and the work which they may have done at school will relieve them from the full period of a five years' curriculum provided such work has been done at one of the schools or institutions recognised by the authorities of the Conjoint Examining Board and that they have passed the necessary examinations in chemistry and physics. Both the Royal College of Physicians of London and the Royal College of Surgeons of England are evidently very anxious to assist science teaching in schools and consequently are recognising more and more science schools and scientific institutions in all parts of England. During 1897 students were registered not only from university colleges and medical schools but from public schools, grammar schools, schools of science, scientific institutions, and even from polytechnic classes and technical colleges. Such a system introduces much confusion in the first year's teaching at the medical schools and makes the exact status of the individual student a very perplexing question for the medical school authorities as well as for all parents and tutors. A compulsory four years' curriculum after the student had passed these preliminary sciences would be a clearer and better solution of the difficulty than the regulations which are now in force.

ON the fifth day of her trial at the Central Criminal Court CAMILLA NICHOLLS was on May 2nd convicted of the manslaughter of her servant EMILY JANE POPEJOY by prolonged ill-treatment and starvation and sentenced to seven years' penal servitude. Some fourteen months prior to her death the deceased entered the service of Mrs. NICHOLLS at Pitt-street, Kensington; she was then, according to the evidence of several witnesses, well nourished and apparently healthy. At the end of that time she was sent home in a dying condition and within a few days passed away. An inquest was held and a post-mortem examination was made by two medical men. At the necropsy it was found that the body was extremely emaciated, while the lungs were affected by chronic tuberculous disease, to which was added pneumonia of about ten days' standing. The wasting was considered by Mr. H. B. OSBURN and Mr. CREASY to be greater than would be accounted for by the disease and could only be explained by "long and constant withholding of food." It must be conceded that such an opinion carrying as it ought such weighty consequences would only be formed and expressed after a searching examination and the most careful consideration. It is certain that Mrs. NICHOLLS was responsible for supplying the deceased with food of proper quality and in sufficient quantity and it remained to be proved whether she had failed in her statutory duty. There was evidence forthcoming from several sources that she had for a long period deprived the girl of proper nourishment. To habitual under-feeding was added further neglect as a punitive measure. Not only was there direct testimony to this effect but it was proved that deceased on more than one occasion was seen to pick up crusts in the street and eat them. Moreover, she spoke of abiding hunger to a witness who supplied her with food. It will naturally be asked why she did not complain to her parents. To this the reply is that her mistress forbade her writing home except at her dictation and then the facts were falsified. In his summing up Mr. Justice PHILLIMORE directed the jury that the one issue for them to determine was whether the deceased had the means of escaping from her distressing circumstances. They answered that she had not. Whether this was from the direct and overpowering influence of Mrs. NICHOLLS alone or partly from fear of punishment at home for leaving her situation is not clear. To the omission of her duty the prisoner was proved to have added a serious aggravation in that she not only held the girl in thraldom and terror, but treated her repeatedly with physical violence, on one occasion breaking her nose and on another striking her foot with a hammer. A strenuous attempt was made by counsel for the defence to show that the prosecution had failed to prove that death was not due to natural causes and that the evidence of more than one witness as to cruelty—and notably that of a fellow servant—was unworthy of credence. As regards the latter, whilst allowing a wide margin in favour of the prisoner, it was impossible for the jury to assume that one and all were wilfully forswearing

themselves. There was far too much consistent corroborative testimony to warrant such a conclusion.

The medico-legal aspects of the case are most engrossing. The Society for the Prevention of Cruelty to Children could tell of the extreme difficulty which they have experienced in establishing charges of starvation, and investigations held on coroners' inquisitions confirm the same. The difficulty is rendered greater and sometimes insuperable in cases where grave organic disease—and notably tuberculosis—exists, whether diagnosed during life or discovered after death. Starvation and disease act reciprocally and intensify each the other, so that the utmost care in observation and discretion in forming an opinion are required and the obligation becomes paramount where the life or liberty of a fellow being is at stake. Without challenging the conclusions of the medical men who made the post-mortem examination we may acknowledge the gravity and extreme complexity of their task. *Primâ facie* we should have inclined to the view that even pronounced general wasting might be explained by advanced tuberculous disease of the lungs and that death might follow as a consequence of such disease supplemented by recent pneumonia. The nature and degree of the chronic pathological process can be duly appreciated only by those who have the facts under direct observation; mere academic opinion of those facts as reported by others is very properly received with philosophic doubt. Counsel for the defence must have felt their powers of advocacy severely tasked to nullify the proposition of the prosecution that the lung disease was insufficient to explain the emaciation and to combat the non-professional testimony as to the frequent appearance of bruises on the body of JANE POPEJOY. Diabetes was advanced as possibly existing—a disorder capable at once of answering for general emaciation, and of substituting purpuric patches for hæmorrhages caused by external violence; but there were no convincing facts that the deceased suffered from this malady.

Whilst strongly protesting against the popular indignation expressed whilst the convict was awaiting her trial, we feel constrained to subscribe to the finding of the jury. Much of the evidence was certainly open to suspicion and many statements were probably exaggerated if not demonstrably contrary to fact, yet an impartial consideration could not well have led to any other conclusion than that NICHOLLS through criminal omission of duty and commission of illegal acts was justly convicted of having contributed to the death of the unfortunate girl. She must have noticed the gradual wasting and failing strength of her servant and yet not until within a few days of her death did she take any steps to acquaint the parents with the serious condition of their child.

IF we are not of the number of those who see no urgency in the need for measures to protect poor lying-in women from the risks of being attended by ignorant and untrained midwives we are none the less of opinion that the present Bill before Parliament is not one which is likely to diminish such risks. These risks are so obvious and have been so often illustrated in our columns and at coroners' inquests that we should think ourselves blameworthy not to recognise them and to approve means for their mitigation. If all modern teaching on the origin of puerperal fever is not a delusion that disease must be fostered on a large scale by dirtiness and ignorance in a midwife. Parturition may be "a natural process," but if so it is the only natural function that we know of which is attended with much pain and suffering and, we might add, liability to be followed by very unnatural processes of disease, including the risk of permanent injury and even death. But this only makes it the more desirable to act with caution and to preserve the practice of midwifery as an essential part of the art and science of medicine.

The recent discussion of the question in the General Medical Council and an admirable letter by Mrs. GARRETT ANDERSON in the *Times* of April 30th have tended much to clarify the subject and to define what is really wanted and what is not wanted in any legislation. Mrs. GARRETT ANDERSON points out in her letter that the Bill now before Parliament seems more calculated to improve the status of midwives and to raise them into a semi-medical position than to benefit the parturient poor. We trust we shall not be considered uncharitable if we say that this Bill is mainly meant by its promoters to improve the status of the midwife. It is promoted by the Midwives' Institute and this particular object is admitted by the promoters. There can be no objection to any reasonable improvement in the status of midwives; but that is certainly not the object of the public in upholding the movement. The object of the public and of the medical profession is the protection of lying-in women. So far as an improvement in the status of midwives is necessary to advance this object so far will it be conceded. But the contention of those who have studied the question deeply is that the Bill will advance the status of some midwives while leaving the poor parturient woman still in the hands of the ignorant midwife. It will do so in two ways. It will place on the midwives' register thousands of women who are untrained and unfit and give them a new lease of life and a rise in status, and in its present form it will give to all midwives a status which they have not at present and on the strength of which it will be easy for them to assume medical functions with great disaster to the public interest. Mrs. GARRETT ANDERSON makes these points very clear. She shows that without precautions which have not been taken in this Bill the midwife to be created by it will soon develop into a practitioner who will despise practice among the classes for whose benefit the Bill is designed and will aim wholly at competing for the midwifery practice of the medical profession. It is a notorious fact that the improvement in midwifery practice dates from the time when it largely ceased to be carried on by midwives and came to be regarded as a very serious and onerous part of medical work. The Medical Act of 1886 very properly recognised this great and beneficent change and placed the practice of midwifery on a level with that of medicine and surgery. If a Midwives Bill is to create a pretentious class of practitioners in midwifery it will tend to degrade the art of midwifery and to defeat the ends of the Act of 1886. Medical men

can only guide the art of midwifery to greater perfection and efficiency by still having the bulk of it in their hands. They cannot be responsible for the difficulties arising in midwifery practice if deprived of the practice; hence it is essential in any legislation on the subject of midwives to emphasise the fact that midwives are to have no strictly medical functions and that in all unnatural or unusual conditions they are to apply and appeal to the medical professional for assistance or advice. Any Bill which imperils the position of midwifery as a part of the great art of medicine and weakens the Act of 1886 is no friend of poor lying-in women, a view which the General Medical Council have taken in their response to the invitation of the Privy Council for advice.

We cannot doubt that the House of Commons will see the gravity of the question with which it is asked to deal and the inadequacy of the Bill which it is asked to pass. In addition to the considerations which we have already advanced and which are enough to justify the rejection of the Bill there is another more convincing still. The Bill proposes only to render illegal the assumption of the title of midwife. It leaves any woman who likes to do so to discharge the duties and to carry on the practice of a midwife. Amongst the poor a title does not need to be assumed; it is given. A woman need only give herself out as ready to do the duty of a midwife and her neighbours will give her the duty and the title too. And the same mortality and morbidity as at present will go on. If the intention of Parliament is to stop these evils and to make the lives of women safer it must stop the practice of ignorant and untrained women altogether and place that of the future midwife, with a modest training, strictly under the effective supervision of the medical profession. We look confidently to Parliament to do this service, and after the speech of the Lord President of the Council to a deputation in favour of the Bill on Monday last which was marked by the speaker's usual practical wisdom, we may reasonably hope that Parliament will take our view. The Duke of DEVONSHIRE advised the promoters of the Bill to come to terms with the General Medical Council and with the medical profession rather than to press the existing Bill forward. He did not think that he could advise the Government to support the Bill against the medical profession. In addition to their objections he had received a memorandum from the Local Government Board suggesting difficulties in the form of protests from the local sanitary authorities upon whom and whose officers serious and costly duties were laid by the Bill. This objection may be overcome and should be overcome if an effective and acceptable Bill can be devised grappling with the great evils of a class of ignorant and untrained midwives. But the present is not such a measure.

IT was a happy thought o the Marquis of LANSDOWNE to select the unique occasion of a dinner at the Mansion House in honour of the medical profession to narrate the plans of the War Office for redressing the present grievances of the Army Medical Officers. In no way could the Secretary of State for War have more entirely coöperated with the Lord Mayor in giving a public voice to the high estimate in which members of our profession are held by their fellow citizens than by choosing his seat at the Lord Mayor's table from which to deliver his ringing words in approbation of the services rendered by the Army Medical Staff and the desire of his Department to remove all causes of disagreement between the army and the medical officers of the army. "The army is proud," said Lord LANSDOWNE, "that it contains a number of officers who belong to the medical profession, but who are none the less soldiers in the fullest sense of the word, wearing the QUEEN'S uniform, holding her commission, ready to take their share—aye, and more than their share—of the risks and hardships of warfare. We are determined that there shall be no failure, either in theory or in practice, to treat them with the respect to which they are entitled." Following these words of promise his lordship said that the Army Medical Staff and the Medical Staff Corps would be consolidated into a corps with the same military titles as other officers of the army up to the rank of "Colonel"—the titles of course not conferring any right of command outside the corps; and that HER MAJESTY THE QUEEN had signified her intention of bestowing upon the newly formed corps the title of the Royal Army Medical Corps. This clear statement seems to us to redeem the happy promise. An officer in such a Royal corps called by a familiar military title and enjoying within his corps the position of other officers in the army of his own rank can no longer be regarded, or suspect that he is regarded, as other than an integral part of the army, for his military and medical status are alike defined and certain. There is here no question of relative rank or of substantive rank whatever. He will enjoy actual rank. The fact that the title of "General" will not be granted save in the compound expression of "Surgeon-General" appears to us to be a reasonable reservation in view of Lord LANSDOWNE'S declaration that the present policy of the War Office is to restrict the number of officers bearing the title of General to those officers who may be required to fill one of a limited number of appointments, all of which will involve general command in the army and fitness to command troops in the field. Under such a restriction no departmental officer will be able to reach the rank of general officer. But surely the title of Surgeon-General is an honourable and well-sounding appellation, conveying the high rank, both military and special, which is held by its bearer. We congratulate the Army Medical Staff on the successful issue of their claims for redress. With a definite military status the service should again become popular, while with the gaps in its ranks adequately filled other grievances—for example, the difficulty of obtaining leave and facilities for pursuing scientific investigation—must disappear. Finally, to Lord LANSDOWNE the whole profession owes a debt for his outspoken words in appreciation of the medical men of the army. It was impossible to hear them, and we know that it will be impossible to read these words, without feeling that they must exercise a vast influence for good in serving to heal the breach of many years.

Annotations.

"Ne quid nimis."

EXEMPTION OF CROWN PROPERTY FROM SANITARY CONTROL.

THE exclusion of the agents of the local authority from all buildings, premises, and vessels belonging to or used for the time by the Government, and the exemption of such property from the provisions of the Public Health and kindred Acts, though recognised as a part of the prerogative of the Sovereign, must be considered an anachronism. It is, indeed, necessary in the interests of the nation that the Crown should possess powers of an arbitrary character and occasionally acting hardly on individuals, as that of appropriating patents, which is, however, rarely exercised save in respect of the appliances of war and national defence, and that the persons of members of the diplomatic service should be held sacred. But we are unable to conceive on what pretext of expediency the exemption of post-offices and police-stations from provisions enjoined or approved by the central authority for the preservation of the public health and the prevention of loss of life by fire can be pleaded. It is not long since the person in charge of a house used as a branch post-office in the E.C. district was severely reprimanded by his superiors for having admitted the sanitary inspector, and the intimation and statutory notices served by the local authority for the abatement of the nuisance—i.e., the removal of serious sanitary defects endangering the health of the inmates of the house and probably of those adjoining—having been ignored the vestry applied for a summons. The magistrate in declining to grant it expressed his great regret and, in no hesitating manner, his disapproval of a law or custom under which grave abuses could be permitted. Since the great fire in Cripplegate the local authorities and the Building and Licensing Committees of the London County Council have been redoubling their exertions, not infrequently requiring the reconstruction of arrangements for escape which they had previously sanctioned, and putting some City firms to expenses amounting to £2000 or £3000. Yet we are told by those who ought to know best that the sole means of entrance to and exit from the principal room at the Central Telegraph Office is a winding stair-case, only wide enough for two persons, by which at 8 P.M. 900 men pass out and 250 in, the crush being indescribable. We fear the consequences of a fire as sudden as that in Hamsell-street or even of a mere alarm would not, like those of the Cripplegate disaster, be confined to loss of property. Again, while the medical attendant in an ordinary case is bound under a penalty to notify all cases of infectious disease he may be called to see, and the patients or persons in charge are bound to avoid exposure or other means of spreading the infection, in the case of a Government building there is nothing to prevent the concealment of cases of small-pox or diphtheria and the establishment of centres of diffusion in the families of the resident staff at such places as post-offices, police-stations, or, for the matter of that, in the offices of the Local Government Board itself. All the other privileges are based on unwritten custom and precedent, the exemption from notification alone being statutory. We are, however, informed that one of Her Majesty's Secretaries of State has relaxed the prohibition, temporarily and as a matter of favour, not of right.

THE SPEAKER ON HOSPITAL WORK.

THE Speaker has been kindly presiding at a dinner held in aid of the Building Fund of the Royal Westminster Ophthalmic Hospital, Charing-cross, and was worthily surrounded by honourable Members of the House over which he so ably presides. Between the Speaker's eloquence and what he called the eloquence of the figures of the growth of the number of patients using the hospital the result was considerable. A subscription of over £2000 was raised, of which more than £1500 was on the chairman's list. In the last fourteen years there had been an increase of 126 per cent. in the patients. The out-patients had increased from 4954 in 1850 to 10,588 in 1897. £50 000 were asked for, one-fifth of which would probably be required for the site in the neighbourhood of Charing-cross and the rest for building and endowment. The great increase of knowledge in recent years in regard to the treatment of special diseases necessitated new appliances, new remedies, and larger space. Mr. Cowell, the treasurer, in responding for the executive staff, alluded to some of the causes of the great difficulty which hospitals had in obtaining the money they required, and especially mentioned the unchecked multiplication of small hospitals which added greatly to the total amount spent on administration and to the diminution in the receipts of many of the smaller hospitals caused by the establishment of the Prince of Wales's Fund. He did not wish in the least to disparage that fund, but he could not help saying that in his opinion it would have been more equitable to include some of the older small hospitals, such as this, with the large hospitals for some proportional additional grant. We trust that the pressing appeal of the Speaker will have its legitimate effect and that those who generously respond to it will do so with some effective conditions providing against the demoralising abuse of such charities. Hospitals do not need, and are not the better for, a huge and excrescent out-patient department. So fair an advocate as the Speaker will apply another test to the hospital system by which it will ultimately be judged—its indirect effect in so educating the medical profession as to make it efficient and humane. The number of persons receiving the direct charitable assistance of hospitals is very much greater than the number needing it. It says little for the hospital system of the present day if the men whom it trains cannot meet the needs of a large number of the patients now attending hospitals but having little claim on charity. We shall not be misunderstood in thus qualifying the eloquence of the Speaker and his statistics. We are the more compelled to be critical as the right honourable gentleman entirely overlooked the question of hospital abuse. We assure him of our entire concurrence in his essential purpose.

THE DANGER OF VEHICLES WITHOUT LIGHTS

THE enormous advances which have been made of late in the methods of highway locomotion have rendered the regulations in regard to the vehicular traffic on the public roads in many districts quite obsolete. The advent of the bicycle with practically silent gear and rubber tyres soon showed that in the absence of the clatter of wheels and hoofs some other indication of approach should be enforced and a bell and lamp were properly insisted upon as necessary accessories of these vehicles. It was not long, however, before those using ordinary carriages saw the advantages of a rubber or noiseless tyre and when these advantages came to be applied the same regulation obtained. To this day, however, there is no regulation—except in a few districts—providing for the carrying of a lighted lamp on the ordinary cart, the only reason for this somewhat extraordinary exception being apparently because it is thought that the existence and position of a cart can be fairly gauged from the combined noise of the wheels of the cart and the horse's hoofs. In districts where a regulation does exist it is very seldom acted upon. As every cyclist knows it is most difficult to tell on

dark nights the exact whereabouts of a lightless vehicle and to decide whether it is approaching or receding. The risk of collision would, of course, be completely avoided if all vehicles were compelled to carry a light on the "off" side. Why cannot such a regulation be carried into effect and be universal? The danger is no imaginary one. With the greatest care a cyclist, for example, may be proceeding at night down-hill, aware that there is something ahead, but by no means sure in what direction it is going, with the result that he may suddenly find himself in contact with a powerful horse. The horse is probably startled, rears up and bolts, or kicks out and causes considerable fright if not actual injury on both sides. We know of instances of this kind where that particular offender the market-cart has been the cause of disaster. It too often happens that the carter is fast asleep. There is daily a stream of this sort of traffic to and from the vegetable markets of London within a twenty-mile radius. In consequence of carrying no lights or of a regulation to this effect not being properly enforced this is a source of constant danger to the riders of noiseless vehicles, bicycles, &c., upon the road. A regulation should be enforced and made to apply to all vehicles in every part of the country. It is quite absurd in this respect to attempt to classify vehicles using the public road; all without exception should be compelled to carry visible signals which will point the proper course to steer and thus ensure the safety of the public both on foot and on wheels.

THE PLAGUE IN INDIA AND CHINA.

WHILE the plague is declining at Bombay we regret to say that it is extending in other parts of India, as in the Nizam's dominions and at Karrachi and elsewhere; some cases have occurred also in the Punjab, at Jullundur, and what may have a more serious significance, many cases of bubonic plague have made their appearance at Calcutta. Calcutta is, we need scarcely say, a large and densely populated city and, like all large Eastern cities, not in a satisfactory sanitary condition. It is estimated that owing to the alarm occasioned by the reported appearance of plague, some 250,000 of the inhabitants have made their exodus from Calcutta. Intelligence has also been received at the Colonial Office from Hong-Kong regarding a recrudescence of the disease there. The latest telegraphic report, dated the 2nd inst., shows a slight decrease in the numbers compared with those of the previous week, but there were nevertheless 119 cases of plague with 114 deaths during the past week. Bubonic plague and small-pox have likewise been prevailing for some time among the Chinese in the colony of Macao, although not to an epidemic extent apparently. We have always and from the first regarded the occurrence of plague in India as a most serious matter, compared with which the famine and the Indian frontier war were much less important, because a plague epidemic was likely to have its recurring periods of seasonal activity and comparative dormancy and to last for a long time and because of its liability to be widely spread by the exodus of alarmed people from infected localities. It is quite probable that the infection would not gain any foothold in wholesome situations where the sanitary surroundings were good, but these conditions do not commonly obtain in the East. The disease-cause or micro-organism seems to depend greatly upon some localising influences and fostering conditions and, under such circumstances, to retain its vitality and renew its manifestations over considerable periods of time. Apart from the grave trade and commercial losses and inconveniences as well as the loss of life which the disease causes, the preventive measures which have had to be adopted have given rise to very serious discontent and opposition on the part of the native population. The authorities in India have had to grapple with a very hard and difficult problem; but they seem to be earnestly taking all reasonable precautions in dealing with it, and bad as the plague has been in India its effects and proportions have been on a very different scale in that country to those of which we have historical records elsewhere.

"THE LANCET" OF LAST WEEK.

A LARGE portion of the issue of THE LANCET of April 30th was destroyed in consequence of a fire which broke out early on Friday morning the 29th in premises adjoining those in which THE LANCET is printed, but which unfortunately was not got under until it had attacked the building where THE LANCET was undergoing the final process of being machined and bound. Work was necessarily suspended for many hours, printing- and folding-machines were flooded with water, hundreds of sheets already printed were ruined, and much delay resulted. The proprietors of THE LANCET regret the inconvenience caused to many readers by the non-receipt of their copies at the usual time and also the great trouble to which newsagents were put by making repeated applications for their supplies.

BLOOD PARASITES.

AN interesting paper by Dr. E. W. von Tunzelmann appears in the Medical Reports of the Imperial Maritime Customs for China for the half year ending Sept. 30th, 1896, which have only been recently published. He describes "a non-malarial remittent fever" which has to be discriminated from typhoid fever, with which, he believes, it has been confounded, for it appears to be a common enough disease. On examining the blood of patients suffering from the fever Dr. Tunzelmann found parasites which have hitherto escaped detection. He first observed them in a very complex case, the non-malarial remittent fever to which the fatal issue was due being mixed with a malignant form of malarial quotidian. Excellent plates accompany the article showing the various forms of the parasite. The first figure shows various stages in the development of the pigmented quotidian plasmodium of the so-called "summer-autumn" fever of the Italian observers. This form rapidly decreased in number, while at the same time infested red corpuscles became more and more abundant. The most striking of these novel appearances was that of a brilliant, double-contoured crescent, varying in size from a barely perceptible dot up to two-thirds of the size of a red corpuscle. When the focus was lowered the crescent became clearly defined, while the outline of the red corpuscle was still indistinct, as if it were external to the latter. This Dr. Tunzelmann believes to be only an optical appearance due to the high refrangibility of the parasite. The second form of organism was found on diluting a drop of fresh blood with an equal volume of normal salt solution. A couple of flagellated bodies in active movement were first seen (malarial parasites), then an object in active internal movement came into view. The greater part of it was occupied by two very clearly defined tentacle-like objects, each bent on itself, its free end swollen into a knob and attached at the other end to an ill-defined, reddish-brown body. These two were in constant motion. After two hours the field of the microscope was occupied by some twenty large objects, some of which are represented in the plates. They were in such continuous and active movement that they were difficult to sketch. These bodies are not easy to describe and vary so in appearance that without referring to the drawings no accurate idea of the parasite can be obtained. Dr. Tunzelmann proposes to call these organisms the "medusa

sanguinis hominis." He then proceeds to describe a third form of parasite which he has found associated with the medusa. These parasites are simpler in form, being usually reniform. A most notable fact about them is the enormous number which the blood may contain without producing any obvious symptoms—sometimes none at all—a point on which they differ entirely from the medusa sanguinis hominis. He has found the medusa in 4 adults and in 4 children; in every case there was pyrexia which only ceased when the medusa had completely disappeared from the blood. The other parasite he found in 21 adults and in 13 children, or, excluding those who also had the medusa, in 17 adults and 6 children. Of these, 4 adults only and 2 children had fever lasting in each case from two to four days; it was never high, 103°F. being the maximum in the adult cases, nor were the other symptoms severe. 3 of the infected adults had never had malarial fever and 4 of the children. These observations are very valuable. No doubt Dr. Tunzelmann's work will receive due attention from other workers and it promises to be of aid to treatment. Methylene blue produced better results than quinine.

THE DWELLINGS OF THE POOR.

AFTER fourteen years' work the Mansion House Council on the Dwellings of the Poor are able to take a more optimistic view of the future than hitherto. The population of the metropolis increases so rapidly that the task of attempting to guard the poor of London against disease and death in consequence of the ignorance or criminal negligence of landlords in allowing dwellings to exist in an insanitary state is a prodigious one, but the persistence and patience of the council is at last bringing its reward. The council, which works in conjunction with the London County Council and the various local authorities, has during the year 1897 made 8002 inspections, dealing with 4908 houses. Of these the council was able to get defects remedied in 2042 cases, 1335 were dismissed as trivial, &c., and 1531 were still under consideration at the close of the year. A feature of the year's work was the organisation of popular lectures on hygiene in various districts. These lectures were given merely as an experiment, but as they seem to have been successful it is probable that this new branch of work will be continued. Applied sanitary science has made and is making great progress, but until the public are taught to properly understand the meaning and benefit of hygienic laws this progress must be to a great extent retarded.

OMNIBUS CALLING-STATIONS.

THERE are certain points in the busy thoroughfares of London at which the omnibuses stop to take up or set down passengers. These were commonly situated at the intersection of two great streets. Piccadilly-circus, Ludgate-circus, and Wellington-street, where it crosses the Strand, are examples. But as the traffic increased the police found that it was expedient to prohibit the omnibuses stopping immediately at the corners, inasmuch as vehicles, including other omnibuses, frequently accumulated behind the stopping omnibus, thus blocking the traffic on the cross road, besides that going in the same direction. So that now the omnibuses are compelled to stop at a point 50 yards or so further on, and much of the previous obstruction is thus avoided. An omnibus-driver pulling up at such busy corners as we allude to would now be summoned as he is officially warned not to do so. But there are not a few people who do not know this and they wonder why an omnibus does not stop close to these points in response to their signals. Accidents sometimes arise from this misunderstanding. Persons may be constantly seen following an omnibus and attempting to enter it when it is moving under the impression that it is soon going to stop in obedience to their indications. They may manage to get in safely or they may not, or they may be left in the middle of the road in the centre of a most bewildering mass of vehicles. What we should like to suggest is that the London County Council should put up posts at the usual stopping places with an announcement intimating that the spot is an omnibus calling-station. This would save considerable annoyance, inconvenience, and exhibition of temper, not to say risks, to those persons who do not know where the omnibuses are authorised to stop.

KING'S COLLEGE HOSPITAL.

THE festival dinner of King's College Hospital was held on Tuesday last at the Whitehall Rooms, Hôtel Métropole, Lord Lister being in the chair. A large number of the supporters and friends of the hospital were present and more than a hundred letters of regret at inability to attend were received. Donations and subscriptions amounting to £3025 were announced, including one of £1000. This is the largest sum which has been collected at any festival dinner of the hospital, except on the occasion when the Prince of Wales presided.

A WEST LONDON HOSPITAL DINNER.

AT the suggestion of several past members of the visiting and resident staff of the West London Hospital it has been arranged that the past and present members of the staff, residents, post-graduates, and dressers of the West London Hospital should dine together at the Trocadero Restaurant on Tuesday, May 31st, at 7.30 P.M. The chair will be taken by Mr. Alfred Cooper, consulting surgeon to the hospital. Mr. L. A. Bidwell, 59, Wimpole-street, is acting as honorary secretary to the executive committee, and he will be glad to hear at their earliest convenience from all qualified to attend the dinner.

LEPROSY IN HAWAII.

DR. J. ASHBURTON THOMPSON, Chief Medical Officer of the Government of New South Wales, has recently published a pamphlet on the results of a critical inquiry which he made into the etiology and spread of leprosy in Hawaii. The paper appeared in an abbreviated and uncorrected form in the third volume of the Transactions of the Leprosy Conference, Berlin, 1897. After describing the geographical position, meteorology, population, and foreign relations of the group of islands Dr. Thompson considers the question of imported labour from leprosy areas, but finds little evidence in support of the theory that the disease was introduced in that way. The first reliable observations on the occurrence of leprosy in Hawaii were made between 1855 and 1863, but the rate of its diffusion is very uncertain. Dr. Thompson remarks: "All competent witnesses hold the following opinion—that there is no record or distinct tradition of the invasion of the disease. When attention was first attracted to it cases existed in every island of the group; it is not known or suggested either that any island was attacked long before the rest or that any remained free after the rest were known to suffer." It is thought at the present date by those at Honolulu who are in the best position to judge that the outbreak is now declining. The evidence that this is so is not as yet such as can be easily apprehended by the foreign visitor, and it is the case that during the last thirty years a similar opinion has been expressed from time to time only to be contradicted a little later by acknowledged facts. Great difficulties have been experienced in carrying out a policy of isolation. In 1865 the necessary land was acquired, which thenceforward became known as the Settlement, but for many years constant communication was carried on between the lepers and

their friends on the other islands. Consequently, the author says, no account of the fluctuations of this endemic can be written; all that can be furnished is a statement of the number of persons annually removed to the settlement, and this is given for the term of years from 1866 to 1895 in a table. But these numbers stand in no known relation to the total affected in the whole group and fluctuate largely, if not exclusively, in correspondence with terms of greater or less executive energy, and are hence of little scientific value. In fact, as Dr. Thompson himself observes, the value to etiology of the present case must be classed scientifically as "unobserved," as no records were kept of the original inhabitants of the islands who became lepers, but the vast majority of cases were observed in those families whose ancestors had been imported into the islands.

MEASLES AND THE PUBLIC HEALTH ACT.

AT the meeting of the Vestry of Chelsea, held on May 3rd, Dr. Louis C. Parkes, the medical officer of health, stated in his report that during the past five months an epidemic of measles had been in progress in Chelsea and other parts of London which up to date had caused some 70 deaths, in Chelsea chiefly, of infants under the age of five years. These epidemics recur with great regularity every other year. In the past major epidemics had recurred every fourth year with a minor one midway between them. The disease, though a very fatal one, is not notifiable under Section 55 of the Public Health Act, neither is it one of the "dangerous infectious diseases" under Section 58 to which the "prevention clauses" apply. Dr. Parkes thought that it would be no good notifying measles under Section 55, but he advised the vestry to concur in the action suggested by the London School Board to the County Council that the latter body should order measles to be scheduled under Section 58 so that the "prevention clauses" would apply. Thus some measures towards avoiding the spread of infection could be taken. It would also, Dr. Parkes thought, be very advisable to exclude all children under the age of five years from public elementary schools during the progress of an epidemic of measles.

THE HEATING OF RAILWAY CARRIAGES.

WE have received from a correspondent a long memorandum embodying sundry complaints in reference to the above matter, which is evidently a serious one to him. He specially objects to the system adopted on some lines of heating carriages by allowing steam to pass through iron pipes fixed under the seats of the carriages, for, according to him, they produce pathological effects of the most varied and pernicious kind. Our correspondent's zeal on this matter is, however, not according to knowledge, so we shall say no more on these points. With one complaint of his we are in accord, and that is with regard to the fusty smell produced by the slow combustion of dust and organic particles which settle on the pipes. This defect might be easily got rid of, though, by some slight alteration in the ventilating arrangements of the carriage or even by opening the window, a procedure not always fraught with such disastrous consequences as our correspondent implies is the case. He is all for a return to the old system of foot-warmers which, he says, the passenger could get if he wanted and do without if he did not. In our experience the passenger who got in a train at an intermediate station other than a place such as Swindon or Crewe could never get a foot-warmer, and the same was the case with the unhappy suburban traveller, who was frequently boxed up in a wooden case called by courtesy a carriage for some two hours while performing a journey of fourteen miles or so. So far as we know most of the steam-heated trains at present are "corridors" and there is no difficulty in opening the inner doors or the outer windows and so getting air without draughts. Another complaint our correspondent makes is that the handle which is supposed to shut off the steam will never work. This of course should be altered. The system works perfectly well on the Russian and German railways and there is no reason why it should not work equally well in this country.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE CORPORATION DUTY.

THE Customs and Inland Revenue Act of 1885 enacted that all corporate or incorporate bodies should pay a duty of 5 per cent. on the annual value of all their real or personal property unless the property was applied for the promotion of education, literature, science, or the fine arts. Relying on this last clause the Council of the Royal College of Surgeons of England have claimed complete exemption from the duty and the Commissioners of Inland Revenue allowed the claim so far as it related to the museum, but maintained the assessment on the remainder of the property of the College. Altogether they assessed the College at £3161 and required £158 1s. as duty. Against this assessment the College has appealed and the Court reduced the assessment by £250, the annual value of the curator's house, but declined to exempt the library from the tax because "it had not been shown that the library was applied for purposes of science." We acknowledge that there seems to be some reason for the non-exemption of those portions of the College which are used for examinations, though it may very well be maintained that they are employed "for the advancement of science," but we must confess we are much surprised at the refusal of the Court to exempt the library. It is probably one of the most valuable scientific libraries in this country and admission is more easily obtained to it than to the library of the British Museum. It can hardly be said that special privileges are granted to the Members of the College, though this seemed to be the ground on which it was held that the library was not applied for the advancement of science.

THE SUPPLY OF MILK OF PRESCRIBED COMPOSITION.

IN the artificial feeding of infants it is well known that the requirements vary with different individuals. This fact has led to the preparation of humanised milk of two different strengths, their composition differing chiefly in regard to the proportion of proteids, the other constituents being kept at about the average found in human milk. This idea has recently been extended by the Aylesbury Dairy Company, who now prepare humanised milk of a composition in accordance with that upon which the physician may see fit to decide. Thus milk may be obtained containing any prescribed percentage of fat, milk, sugar and proteids. The proteids may be either those normal to cow's milk (i.e., casein and albumen in the proportion of seven to one) or modified by a special proteolysing (not peptonising) process so as to be more digestible and to give a more finely divided curd when acted on by the milk-curdling enzyme of the stomach. The reaction to litmus paper may be either the normal amphoteric one of cow's milk or the faintly alkaline one of human milk. Another important step in advance consists in supplying separately (1) a small bottle containing cream in which the total amount of fat is ½ oz. (or any definite amount); (2) a bottle containing separated milk or proteolysed milk (as prescribed); and (3) a bottle containing a solution of milk sugar in distilled water, together with any alkali, &c., prescribed. This system obviates the changes which occur in milk in transit, especially in hot weather, and chiefly in regard to the churning and separation of the cream into butter. The quantities in (2) and (3) can

be adjusted so that on mixing the entire contents of the three bottles one pint of humanised milk will be obtained; or bottles containing 10 oz. can be supplied, so that the medical man can vary the composition by directing that the contents of (1) be mixed with measured quantities of (2) and (3). Directions as to the quantities to be mixed in order to obtain milk of definite composition are issued. Analyses are made free of cost by the company of any samples of human milk submitted by medical men, who may thus be guided as to the proper course to adopt. It must be recognised that important departures of this kind could not be undertaken without an excellent equipment at the farm and dairy. That this is so is obvious from the fact that the farms are periodically inspected by the medical officer of health for the district. The water-supplies are under similar supervision and every precaution is taken to draw milk from none but healthy cows.

A DINNER TO DR. W. S. PLAYFAIR.

WE have already announced that a complimentary dinner will be given to Dr. Playfair on his retirement (after thirty-five years' service) from hospital work by his colleagues, former residents, and friends, and that Lord Lister will take the chair on the occasion. The dinner, it is now arranged, will be held in the "Walnut" Rooms at the Grand Hotel on Saturday, June 4th, at 7.15 P.M. The following gentlemen, in addition to the staff of King's College Hospital, have expressed a wish to be present on the occasion:—Right Rev. Bishop Barry, Sir Samuel Wilks, Sir Joseph Fayrer, Sir William Broadbent, Sir William Priestley, M.P., Sir Walter Foster, M.P., Sir Dyce Duckworth, Sir Felix Semon, Dr. Farquharson, M.P., the Rev. Dr. Robertson (Principal of King's College), Professor Clifford Allbutt, Dr. Cullingworth, Dr. Buzzard, and many others. No special invitations have been issued, but any gentleman wishing to be present can obtain a dinner ticket by applying to Dr. John Phillips, 68, Brook-street, Grosvenor-square, W.

STREPTOCOCCIC PNEUMONIA.

BESIDES the pneumococcus of Fraenkel other organisms have been found in the sputum and lungs of the subjects of pneumonia; for example, Friedländer's bacillus, the influenza, the typhoid, and the diphtheria bacillus, the staphylococcus pyogenes, and the streptococcus. It has therefore been suggested that when a case of pneumonia runs an atypical course some other infection than the pneumococcus may be present. But no attempt has been made in this country to differentiate what is ordinarily called "pneumonia," which is the name of a lesion and not of a disease, into the various diseases of which it may be a manifestation. In the *Boston Medical and Surgical Journal* of April 14th, 1898, Dr. F. P. Denny calls attention to a type of pneumonia depending on streptococcus infection, described by German writers, of which he saw two cases in Vienna. The onset may be like that of ordinary pneumonia, often it is less sudden. The sputum is more purulent and is less often "rusty"; besides the streptococci pneumococci are often found. The appearance of the patient is characteristic: there are less flushing of the face and a peculiar septic look. The temperature is irregular. There is often no crisis, but the temperature comes down by lysis, often after a course of three or four weeks. The physical signs usually appear late and the upper lobes are more frequently involved than in the ordinary form. The local process has a tendency to wander. So marked is this that it has been called "erysipelas of the lungs." The most characteristic feature of all is the long duration of the physical signs. Dulness, bronchial breathing, and moist râles may often be heard six or seven weeks after the onset of the disease. There may be great prostration and it is often months before the patient has recovered from the severe sepsis. A series of 39 cases of croupous pneumonia reported by Weismayr well illustrates these points. In 34 pneumococci were found alone; in 5 there were streptococci, twice with pneumococci and three times alone. In all the pneumococcus cases with one exception resolution took place by the twelfth day, whilst in not a single streptococcus case did this occur before the nineteenth and in one not until the fortieth day. According to some writers the original infection may always be with pneumococci, but it is the streptococci which modify the disease and give the characteristic features. Pneumococci are very short-lived, whether growing in animals or on media, and if an active process goes on in the lung for more than two weeks it is fairly certain that some other organism than the pneumococcus, probably the streptococcus, is present. The diagnosis of streptococcic pneumonia must be based on the presence of the streptococcus in the sputum; typhoid fever, influenza and tuberculosis have to be excluded. The prognosis is better as regards life than in ordinary pneumonia, but, as stated, a longer course is to be expected. Treatment by anti-streptococcic serum suggests itself, but no information on this point is at present available.

A STILL UNCHECKED FRAUD.

THE prospects of a new Adulteration Bill being introduced and passed are remoter every day. We have expressed again and again the opinion that thus it would be. It was not difficult to foresee that such would be the case, there are so many interests implicated one way and another. The new Bill should, of course, embody what is perfectly fair to both the trader and the public, and he will be an astute statesman who is able to successfully establish a satisfactory balance between the two. Mr. Chaplin was asked last week in the House of Commons when he would introduce a new Adulteration Bill and the answer was, "As soon as he saw any prospect of making progress with the measure." On Tuesday last the answer was much the same and just as comfortless to a large and influential deputation representing the agricultural interests of the country. The members of this body urged upon the Government the necessity of legislative aid in order to suppress the adulteration of dairy products. They agreed with the recommendations drawn up by the Select Committee. Mr. Chaplin held out no shadow of hope; on the contrary, he admitted a divergence of opinion with the views expressed by the deputation. Meanwhile adulteration proceeds apace; the customer asks for and expects to be supplied with butter, but gets an article consisting probably of one-tenth butter and nine-tenths margarine or not unlikely ten-tenths margarine. We do not question the wholesome and nutritive value of margarine, but it is not butter. And the producers of pure butter are thus most severely and unfairly handicapped in the struggle for existence and in attempting to provide the community with a genuine article. How long is this iniquitous procedure to be tolerated?

"TRAUMATIC RUPTURE OF THE INTESTINES."

WITH reference to an annotation on this subject in our last issue we learn that there is now in St. George's Hospital, under the care of Mr. G. R. Turner, a man, fifty-eight years of age, who was operated upon for traumatic rupture of the intestine some four weeks ago, a radical cure for hernia being performed at the same time. The rupture was caused by a blow on the abdomen from a roll of sheet lead weighing 2 cwt. The ruptured bowel was not in, nor had it been in, the hernial sac. It was free in the abdominal cavity, the hernial sac being unoccupied except by a small portion of

uninjured adherent small intestine. The radical cure for the hernia promises at the time of writing to be successful; and with the exception of some bronchitis, which was present before the operation, the patient recovered without a ad symptom.

THE DANGERS OF CHEMICALS IN TRANSIT.

WE ventured to call attention in a leading article in our issue of March 23rd, 1895, to the new risks to which the public were exposed by the increasing use of chemicals in the arts and industries and by the conveyance of the same along our highways both on land and sea. Our remarks were based on what were then recent events of the following description. The explosion of coal gas under the street pavements actuated by the sparking of defective electric mains, the bursting of a steel cylinder containing compressed oxygen at a railway station, and a disaster which occurred on board a steamer through the intermingling of certain chemicals, which was brought about by the constant shipping of heavy seas shattering the vessels in which the chemicals were contained on deck. In the first instance a horse was killed, in the second a man was blown to pieces, and in the third two lives were lost in consequence of suffocating fumes finding ingress into a sleeping compartment. Another occurrence very similar to the last is reported as having recently happened to a Liverpool steamer, but in this case there was a most extraordinary collection of corrosive, explosive and inflammable substances comprising part of the deck cargo. Thus there was sulphuric acid in company with potassium chlorate and phosphorus, materials of a highly and spontaneously explosive mixture. In close proximity to these were benzine, collodion, and spirits of wine. Of six men in the stokehold and engine-room one was suffocated and the other five were burned more or less severely in reaching the deck. The vessel had to be abandoned and in the attempt to put off three men were drowned, the rest after much privation being ultimately rescued by a passing vessel. We are glad to find that a Board of Trade inquiry has been opened, and we trust that something definite will be done to prevent the indiscriminate stowing of chemicals which are most dangerous when united. For the guidance of shippers, stevedores, and others we would suggest that a list should be drawn up and printed by the Board of Trade showing those chemicals which should not be placed in close proximity to each other.

AUDITORY HALLUCINATIONS IN OTITIS MEDIA.

AFFECTIONS of the ear may produce tinnitus in its various forms, but not elaborate sounds or hallucinations; the latter are symptoms of brain disease. The explanation is simple; there is no mechanism in the ear capable of generating the highly complex sounds of language. Though absolutely correct and requiring no qualification the preceding statement does not completely state the case. If the condition of the brain be abnormal the impulses generated by disease of the ear may be a factor, and a necessary one, in producing the derangement of the auditory centre which shows itself in hallucinations. The following case, published in the *Archives Générales de Médecine*, April, 1898, by Dr. L. Coronat, is a very interesting example of this complex causation. A young man, aged twenty-one years, in good health, engaged in dissipation and did not go to bed for two nights. On the following day he travelled by train, exposing his left ear to a draught. He perceived no noises in the ear, but gradually louder and louder he heard the voice of his mother (who was dead) reproaching him with his conduct. The voice was always heard in the left ear, which he thought singular. A few days afterwards as the symptoms persisted he sought advice. The right ear was normal. The left ear showed all the signs of otitis media, the membrane was retracted, and the handle of the malleus appeared to be red. Inflation of the tympanum was practised, which gave rise to numerous râles. Under treatment gradual recovery of the ear disease took place and with it the sounds gradually disappeared. The dependence of the hallucinations on the ear disease is very evident and the requisite brain condition was produced by the strain on the nervous system of a patient who appears to have been naturally of neurotic tendencies.

THE Medical Society of London will give a Conversazione at the rooms of the society, 11, Chandos-street, Cavendish-square, on Monday, May 16th. An Oration, the subject of which will be "The Moscow Congress—a Holiday—with Comments on Suggested Topics," will be delivered by Dr. Frederick T. Roberts at 8.45 P.M. Smoking and music by the "Bijou" Orchestra will form features of the entertainment.

ON May 12th the Duke and Duchess of Marlborough will pay a visit to the Epileptic Colony at Chalfont St. Peter for the purpose of laying the foundation-stone of a new home for boys and opening "Victoria House," a new home for men. Mrs. Passmore Edwards, the wife of the donor of all these three buildings, will also open a new house for girls. The ceremony will commence at 2.45 P.M.

AT the Brompton Hospital for Consumption on Wednesday, May 11th, at 4 P.M., Dr. C. Theodore Williams will give an address on the "Open-air Treatment of Consumption as Practised in German Sanatoria." We are requested to state that all medical men will be admitted on presentation of their cards.

THE annual conversazione of the Royal Society will be held on Wednesday next, May 11th, at Burlington House.

REPORT OF THE ROYAL COMMISSION ON TUBERCULOSIS.

II.—MEAT.[1]

ALTHOUGH, as was stated in the preceding article, the Commissioners consider that there has been a tendency to exaggerate the danger from the consumption of tuberculous meat, little fault will be found on the part of the medical profession and general public with their recommendations on the subject of meat inspection. Their recommendations, indeed, have the advantage on this point even more than in the case of milk of being applicable to the whole subject of meat inspection throughout the country. They had the advantage during their continental tour of seeing in the best appointed abattoirs the routine system of meat inspection as carried out in them by veterinary surgeons, which brought into relief the chaotic (the word is used by the Commissioners) equivalent existing at home. In this country there is no uniformity of practice. A carcase with an amount of tuberculosis in it which is considered by one medical officer of health sufficient to justify seizure will by another be readily passed as fit for food. Such a state of things has naturally led to very great friction between medical officers of health and meat traders. The Commissioners have considered that this question of the extent of tuberculosis in a carcass which should warrant seizure was one of the principal points which they were called upon to decide. They therefore recommend total seizure of the carcass in cases of (*a*) miliary tuberculosis of both lungs; (*b*) tuberculous lesions on the pleura and peritoneum; (*c*) tuberculous lesions of the muscular substance or of its

[1] No. I. was published in THE LANCET of April 30th, 1898.

lymphatic glands; (*d*) tuberculous lesions in an emaciated carcass; and condemnation of the tuberculous portions only in cases of (*a*) lesions confined to the lungs and thoracic lymph glands; (*b*) lesions confined to the liver; (*c*) lesions confined to the pharyngeal lymphatic glands; and (*d*) lesions confined to any combination of the foregoing, but collectively small in extent. These rules, if acted upon, as we have no doubt they will be, would remove much of the grievance of which butchers complain. The presence of miliary tuberculosis in the lungs or muscular substance points unmistakably to the generalisation of the disease and where the carcass is emaciated, quite apart from the presence of tuberculosis, the meat cannot be nutritious. There can be no question, therefore, that carcasses thus affected should be seized. Tuberculous lesions of the pleura and peritoneum, however, are generally mere extensions of the local process from the lungs or intestines and, striking though the appearance presented by them may be, expert opinion in Germany rather tends to disregard them in judging of the fitness of a carcass for food. The recommendations are not so liberal as are those issued in Prussia and Saxony, for instance, for the guidance of meat inspectors, but as in those states arrangements are made for cooking or sterilising meat affected to a certain degree with tuberculosis it is evident that with this additional safeguard much more meat may be allowed to come upon the market than is possible where, as in this country, no such arrangement exists. The Commissioners say that they were favourably impressed with what they saw in Germany of the institution known as the Freibank, a place where, under careful supervision, the sale of this cooked or sterilised meat is carried on. It is generally thought that there would be no market for the sale of such meat in England, but the same view was held by many in Germany before the experiment was tried. Now the demand for it exceeds the supply.

Closely associated with the subject of the extent of tuberculosis in a carcass which should justify seizure is that of the qualifications of meat inspectors. The butchers, we believe, would welcome inspection of their meat provided that they had confidence in the knowledge of the inspector; but they object to be at the mercy of persons who have had no training in the diseases of animals, and that such responsible work as meat inspection should be assigned to the ordinary sanitary inspector is ridiculous. In Hackney, for instance, the report states, quoting from a Parliamentary return, the office of meat inspector is discharged by persons whose previous occupation had been as follows: two had been plumbers, one a carpenter, one a compositor, one a bricklayer, one a florist, one a builder, one a surveyor, and one a stonemason. Only in isolated instances have either butchers or veterinary surgeons been appointed, with the result that the Commissioners have had to seek exact information as to the prevalence of disease among different classes of animals from the annual reports issued from Continental abattoirs, the management of which has been placed for years with great success in the hands of members of the veterinary profession. To secure the desired end of uniformity in the practice of meat inspection the Commissioners recommend that, wherever practicable, veterinary surgeons should be employed, but whether the inspectors appointed be veterinary surgeons or not, they should all pass an examination and receive a qualifying certificate from a central authority before appointment. Recent public health legislation is tending in this direction. Local authorities have not sufficiently recognised as yet the services which a competent veterinary surgeon can render to public health. The Public Health (Scotland) Act, 1897, introduces the name of a veterinary surgeon into the sanitary service by saying that in addition to "the medical officer or sanitary inspector a veterinary surgeon" may act as a meat inspector and that "in the case of any proceeding with regard to a living animal the medical officer or sanitary inspector, unless he is himself a qualified veterinary surgeon, shall be accompanied by a veterinary surgeon."

But the Commissioners consider that a necessary preliminary to a uniform and equitable system of meat inspection is the use of public slaughter-houses in populous places to the exclusion of all private ones. Their recommendations on this point, that power should be conferred on local authorities to declare, as soon as they have erected a public slaughter-house, "that no other place shall be used for slaughtering, except that a period of three years be allowed to the owners of existing registered private slaughter-houses to apply their premises to other purposes," will be regarded by medical officers of health who have fought this point for years as eminently satisfactory. Cases are cited in the report where the public slaughter-house, admirably equipped though it be, has proved itself a white elephant from the unreasonable prejudice on the part of butchers in favour of private over public slaughter-houses. They also recommend that all meat slaughtered elsewhere than in a public slaughter-house and brought into the district for sale should be taken to some place for inspection. It is to be hoped that these recommendations will before long lead to legislation so that no further obstacle will be placed in the way of the erection of public slaughter-houses in all large towns. The Commissioners are of opinion from the inspection which they made of the public slaughter-houses in Edinburgh, Glasgow, Belfast, and elsewhere in the United Kingdom that the separate chamber system on which they are constructed offers an obstacle to efficient inspection which is absent from the hall system now adopted in Germany.

In comparing the systems of meat inspection in this country with that on the continent it must not be forgotten that the conditions affecting them are very different. In addition to the fact that abattoirs are the rule in large towns abroad, home-fed cattle suffice for the meat-supply in Germany, whereas in this country we are dependent very largely on cattle imported from America to be slaughtered at the port of entry and on chilled or frozen imported dead meat, and butchers complain that this meat is not subjected to the same stringent inspection as is the case with that of home-grown cattle. The Commissioners agree that this is the case and suggest certain remedies, but the butchers overlook the fact that there is a general consensus of opinion among medical officers of health who are brought most into relation with these foreign supplies that from the open-air life the animals have lived and the fact that they are selected animals there is little tuberculosis among them. And it must not be forgotten that the animals imported from the United States and the dead meat from Australia and New Zealand have been inspected prior to shipment.

The Commissioners have been unable to agree on the subject of compensation demanded by the butchers for the seizure of the carcasses of animals which have been bought in open market for a fair price apparently quite healthy. The claim of the butchers is based on the fact that the seizure is made in the interests of the public health and they think the public therefore should pay for it; and, further, that an animal may have no sign of tuberculosis recognisable during life, but may nevertheless, after slaughter, be found badly affected with the disease. Many medical officers of health, it is well known, sympathise with the butchers in the loss which they thus at times sustain and have supported their claim for compensation. Four of the Commissioners, however—a majority of one—regard the risk of purchasing a tuberculous animal as well recognised in the trade and one that is taken account of in the purchase price. They think, moreover, that, like other trade risks, it might be easily met by some form of insurance such as has been adopted in a few towns in Great Britain and very widely in connexion either with abattoirs or butchers' societies in Germany. The memorandum signed by three of the Commissioners advocates compensation up to the full value of the animal provided that the magistrate ordering confiscation satisfies himself that the animal had a good appearance before slaughter and exhibited no visible signs of tuberculosis. The compensation is to be charged against, and paid by, the county council which shall be entitled to repayment of one-half the amount from Imperial funds. Such an arrangement would no doubt satisfy the butchers entirely, but there is a considerable danger that it would remove any incentive on his part to be careful in the purchase of his beasts, and it would be an easy means of relieving the farmer from the responsibility of taking all the measures in his power for eliminating the disease from his herd. The possibility of fraud on the part of low-class farmers and slink butchers must not be lost sight of and there can be no doubt that its prevention would be most easily effected by a mutual insurance scheme among farmers and butchers. As has been said, the hardship from losses by reason of tuberculosis has been met in Germany by insurance societies, the premiums charged being arranged so as to cover the losses. But we believe that the cattle dealer in Germany is the person who insures as he suffers the loss, payment not taking place by the butcher to him until the animal has been passed by the inspector. If

in this country the butcher were to demand a warranty from the farmer that his animals should pass the inspector the whole loss would be transferred to the farmer. Failing compensation, insurance either among the butchers or farmers alone, or both jointly, is the only alternative. Seeing that the interests of both farmers and butchers in the matter are very closely connected and that the success of an insurance scheme largely depends on securing the coöperation of all parties concerned a joint insurance fund offers the best means of meeting the difficulty. The loss from seizures of tuberculous carcasses has not been great, but being generally unexpected it has led meat traders, we think, to exaggerate the importance of the grievance.

THE BRITISH PHARMACOPŒIA.

III.[1]

OF the omissions in the new British Pharmacopœia the practitioner has little to complain. On analysing the formidable list of 188 it will be found to contain substances or preparations of practically no value or interest in daily medical work with a few notable exceptions. Everyone rejoices at the exclusion of the cataplasmata and the vapores, the enemata, and most of the decocta. Substances such as flour, breadcrumb, eggs, milk, lettuce, vinegar, cucumber, &c., which have long remained "superfluous on the stage" and which were intimately associated in the professional mind with the constituents of a salad or with the index to Mrs. Beeton's domestic pharmacopœia are now no longer stamped with the official brand.

The only regret which can be entertained concerning this part of the work is that the list is not at least twice as long and then all traces of senility would have been removed from our national Pharmacopœia.

All the infusions should have been omitted save digitalis and a single paragraph inserted in their stead directing in general terms that a fresh infusion of any vegetable drug could be prepared by infusing a given amount—say 1 oz.—of the comminuted substance for fifteen minutes in a pint of boiling water and straining, exceptions being made in a few cases—e.g., quassia and calumba.

We would also venture to suggest that the confectionery department might well have been entirely omitted or else seriously curtailed. The lozenge is a rather mediæval form and we find no less than 17 of them. However, we must be thankful that the lozenge of opium is omitted and that 4 of the old confections have disappeared—i.e., opium, hips, scammony, and turpentine. There is one omission which the practitioner will seriously regret and this is the liquor ferri dialysatus. Doubtless there is great difficulty presented to any revising committee which honestly attempts to cut out effete and worthless preparations. We believe that hardly a single preparation could be condemned without some champion entering the lists in its defence. This was well illustrated in a former revision when sumbul was suggested for the omission column. It was at once stated that the drug was much prized and sold in the West-end pharmacies and it still remains official. The case of the dialysed solution of iron is, however, very different; its place cannot be taken by any other preparation. It was non-astringent and did not blacken the teeth and could be swallowed by those who could not manage to take the reduced iron in pill form. There were doubtless reasons which influenced the revisers when they came to the decision that it should be omitted and these probably were points in connexion with its tests and strength. The drug will continue to be prescribed till a better liquid non-astringent preparation can be found and the practitioner must remember that when he now orders it he must be careful of the patient's interests by directing him to get his prescription made up at a chemist's of known repute as the old official safeguards, such as they were, are now removed. The unstable mess known as mistura ferri aromat. or Heberden's ink is wisely omitted, but the venerable mistura ferri co. with all its proneness to decomposition and unsightliness is still honoured.

But whilst deploring the omission of the dialysed liquor we must direct attention to the absurdity of retaining the vinum ferri still prepared by partially immersing 1 ounce of iron wire for thirty days in 1 pint of sherry. It is a most variable preparation, the amount of iron (which is always fractional) depending entirely upon the amount of acid present in the sherry and in the new British Pharmacopœia there is no test or standard for this acidity, hence no two samples of the wine will agree in strength. The preparation should have been omitted and the name transferred to the vinum ferri citratis. It is a strange fact that this representative of the middle ages should have appeared in Martindale's list of the analysis of 12,000 prescriptions as having been prescribed fifteen times whilst vinum quininæ was not once ordered. In the same number of prescriptions the vinum ferri citratis was prescribed also just fifteen times, but it is possible that when vinum ferri was ordered sometimes the prescriber meant or intended that the citrate should have been dispensed; at any rate it is clear that this is no justification for its retention when we have another wine of iron of definite strength and recognised elegance.

The two essences—anise and peppermint—will be missed. The former especially was much employed in the colic of infancy, though it was seldom prescribed formally by the physician. The dose of the new spiritus which now takes its place is given as from 5 to 20 mins.—i.e., from ½ to 2 mins. of the oleum—a dose which is obviously useless in the majority of cases except when the patient is an infant, and then the amount of strong alcohol present in the maximum dose would represent more than a proper dose of ordinary whisky which is now always sold of the strength 20 under proof. We would therefore recommend the prescriber in such cases to order the anise oil to be given upon moist sugar in a teaspoon.

Of the Extracts the omissions are 17. In the case of 15 of these the physician will have little cause for regret, but the alcoholic extract of gelsemium will be missed, especially as there is now nothing to take its place when he wishes to treat a case of neuralgia of the fifth nerve by a recipe in the pilular form. Many will also regret the exclusion of the extract of logwood. It gave results in the diarrhœa of tuberculous peritonitis—in the pilular or cachet form especially—which justified its retention in preference to the decoction. A dose of 2 fluid ounces of a dye-stuff is not to be regarded as an advance in elegant pharmacy. We would suggest that always the dry extract of rhatany which "is still with us" should be preferred. We could have better spared the wholly inert extract of dandelion, the extracts of gentian, rhubarb, and liquorice, especially the first and the last of these, since they have also each a liquid extract. The attention of the prescriber must be called to the case of belladonna; this drug has now three extracts and the revisers have shown wisdom in arranging that the doses of the two semi-solid ones should be identical—i.e., ¼ to 1 gr. The verdict would probably have been unanimous had they seen their way to reject the old green one, especially as it now is the only preparation of belladonna which is not standardised or made to contain a definite percentage of alkaloids except in the case of the natural succus from the leaves and fresh young branches. All the other preparations of belladonna, numbering no fewer than seven, are standardised.

The omissions in the Infusions number 7; 2 of these were household remedies — viz., anthemidis and lini, but though in constant or daily use they were seldom prescribed in a recipe and the authorities are justified in their rejection, still we part with old friends with some reluctance. Our regret is, however, greater that several others were not sent to keep them company, notably serpentary, which also now has a concentrated infusion or liquor. For the same reason that linseed and chamomile were rejected ergot should disappear; it is seldom if ever ordered in a recipe, though often administered fresh, thus in Martindale's 12,000 prescriptions it was only prescribed once. We shall refer to the substitutes for infusions when treating of the new introductions to the British Pharmacopœia in a later article.

Of the 15 omissions in the Liquors the revisers have shown their judgment to be correct, in our opinion, in the great majority of cases—indeed, we may say in all except the iron preparation previously referred to which, owing to its importance, we mentioned at the beginning of this article. The practitioner must notice that since the effervescing liquors of potash, soda, and lithia are now no longer official it will be necessary when ordering them to see that the manufacturer supplies them of a definite strength.

[1] Articles I. and II. were published in THE LANCET of April 16th and 23rd respectively.

The omissions in the Pills are removals of decided blots. Hemlock was inert and the carbonate of iron and the iodide were unstable and variable in composition.

The omission of the Suppositories containing soap removes another blot and, indeed, the Pharmacopœia does not now contain one of these unnecessary preparations. It is to be noted that suppository of mercury is also omitted. When required, which is seldom, the surgeon can easily prescribe the exact amount of the ointment or mercurial which the particular case requires.

No one will lament the omission of the syrups of mulberries, poppies, and subchloride of iron, the last being one of the most recent additions to the British Pharmacopœia.

Of the 11 Tinctures excluded all were of little value but the physician will often feel at a loss for a liquid preparation of valerian in combinations containing acid ingredients, since the only one now is the ammoniated tincture. Since the strong tincture of ginger is now omitted it would have been well had the Committee increased the strength of the ordinary tincture, which is now weaker than formerly, being only 2oz. to the pint. A tincture of double this strength would have been an important improvement. The physician will note that tincture of veratrum viride is also omitted and this is an improvement; it had no action which aconite tincture does not possess. The tinctures in the old British Pharmacopœia numbered 75, they are now 67. It will thus be seen that they are by far the most important group in the volume, and nowhere is the good work done by the Committee more apparent. They found this group, which occupies a considerable proportion of the Pharmacopœia, consisting of a list of liquids of all strengths and doses without uniformity and containing in their processes errors and directions which were not creditable to British pharmacy; they have reduced them to comparative uniformity—brought order out of chaos. As mentioned in our second article the doses are now made either to be of from 5 to 15 mins. or of from ½ to 1 dr. with the one exception of iodine.

The physician should note the change in the tincture of aconite. It was formerly made with 2½ oz. of the root to the pint; it is now made with only 1 oz. and, strange to say, the dose remains exactly the same. This is quite right—the old British Pharmacopœia dose was dangerously high; indeed, the present dose of from 5 to 15 mins. is quite high enough, but it is qualified by the important statement: "If frequently repeated 2 to 5 mins." Many physicians will prefer to give only one quarter of this amount every fifteen minutes till an impression be made upon the skin, pulse, and temperature. The next change of vital importance appears in the tinctura chloroformi et morphinæ co. This preparation now contains *more than four times the amount of morphine* present in the corresponding old tincture and very remarkable is the fact that its dose is given as larger. The old preparation had a dose of from 5 to 10 mins., the dose of the new is given as from 5 to 15 mins. The tincture of colchicum seeds is now made with 4 oz. instead of with 2½ oz. to the pint and the dose of from 10 to 30 mins. is reduced to from 5 to 15 mins. We are glad to see the tincture of digitalis unchanged, though it is the only tincture in the Pharmacopœia now of the strength of 1 in 8, but it must be noted that its dose is reduced by one half—i.e. from 5 to 15 mins. Tincture of nux vomica now contains twice the amount of strychnine contained in the old tincture, but the dose is only slightly altered, its maximum being now 15 mins. as against 20 mins. Laudanum is practically unaltered except in the process of preparation. Squill, senega, senna, stramonium, valerian, rhatany, and several others have their strengths now made 1 in 5 instead of 1 in 8 and the dose is proportionally reduced.

A noteworthy change is made in strophanthus tincture. It now contains only ½ oz of the seeds to 1 pint; this is half the strength of the old tincture and the dose is exactly the same as that of tincture of digitalis which is five times its strength. Lobelia is now 1 in 5 and is a very active preparation with the maximum dose of 15 mins. The change in the Ointments is for the better in every case. Tartar emetic, calamina, elemi, potassa sulphurata, and savin, simple ointment and turpentine are excluded. There are none of these which will arouse any feelings of regret at their omission. Most of them are only known to the bulk of the profession as items which had to be remembered at the examiner's table. The older members will perhaps be sorry to part with the ancient Turner's cerate but they may console themselves with the reflection that there are now numerous others much more suitable and reliable for the same purpose. The exclusion of the wines of aloes, opium, and rhubarb is also an advance.

In dealing with the omissions we have hitherto dealt mainly with Galenical preparations, because it has been chiefly with these that the revisers have been busy. It is a most gratifying reflection that there is not a single omission of any drug or remedial agent of even third-rate importance. Yeast, canella, animal charcoal, cetraria, nitrate of copper, elemi, guttapercha, barley, manna, kamala, mastich, matico, savin, sabadilla, treacle, raisins, marble, as well as about a dozen of crude drugs the purified representatives of which still remain, give a good general idea of the nature of the revision in this direction. The only active drug of any pretence to importance which has been omitted is green hellebore and its tincture, but veratrine obtained from cevadilla is still official and it is practically identical with the active principle of green hellebore.

Chemicals such as nitrate of lead, sulphate of mercury, cyanide and ferro-cyanide of potassium, valerianate of soda and nitrate of soda, which were only official because they were used in the preparation of other drugs, are now wisely omitted. The cinchonine and cinchonidine salts were of great importance as substitutes for quinine when this drug was from 15 to 20 times its present market value. Like many of the veterans already mentioned they have fallen honourably and must make way for valuable substances like the soluble acid quinine hydrochloride.

Tobacco is omitted, notwithstanding all that has quite recently in high quarters been done in its favour, but it was certainly an anachronism and its retention was a mistake by the 1885 revisers after its Galenical preparation had then been omitted.

By this brief summary of the omissions made in the 1898 British Pharmacopœia the practitioner will see that he has little to alter in his daily practice, and we can safely say that what little change the new volume will necessitate in his prescribing will be an advantage both to himself and to his patients.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE twentieth sitting of the Royal Commissioners was held in the Council Chamber of the Westminster Town Hall on Monday last, May 2nd. All the Commissioners were present. Sir Arthur Arnold completed his evidence and Mr. Shirley Murphy, medical officer of health for the Administrative County of London, was then examined. Towards the end of the sitting Mr. G. F. Deacon gave evidence on behalf of the London County Council with regard to the scheme for bringing water from Wales and with regard to the cost of carrying out the Staines reservoir scheme. The witness exhibited large tables showing the daily flow of water down the Thames for a series of years and contended that the storage capacity of the Staines reservoirs would have to be very great in order to ensure a sufficient amount of reserve water during periods of drought.

Sir ARTHUR ARNOLD gave evidence with regard to the payments made to the labourers employed by the Parks Committee of the London County Council. In the year 1891 the wages of the gardeners, constables, and labourers were 24*s.* a week during the winter months and 25*s.* a week during the summer months. At the present time the wages were 27*s.* a week for a week of 54 hours, that is at the rate of 6*d.* an hour. Lately the Parks Committee had decided that their employés should be paid at the same rate during the winter months although the hours of labour were 48 instead of 54 as in summer. Sir Arthur Arnold thought that the raising of the wages was a proper and reasonable course.

In answer to Sir GEORGE BARCLAY BRUCE the witness said that he did not know how the rate of wages compared with that paid by other employers of labour and remarked that the "heaviest domestic expenses" occurred to the workmen during the winter months, which was a reason for giving them the recent rise in their wages. The witness thought that the London County Council were not overworked. They had at present no arrears; there was no "obstruction." He did not consider the Council were a political and partisan body and he thought that they should be allowed

to control the water-supplies. With regard to purchase he repeated that the undertakings should be bought by arbitration, which should be "full, free, and open." He objected to purchase under the Land Clauses Act because of "technical rules" which, he said, he understood were in force when the clauses of the Act came into operation.

Mr. CRIPPS, Q.C., asked the witness to refer the Commissioners to any clause in the Act which had the significance which the witness suggested.

In answer to Mr. MELLOR he said that he understood that practices had grown up during the time in which the Act had been in force.

In answer to the CHAIRMAN he said that in the arbitration for purchase it would be quite right to consider whether any allowance should be made for compulsory purchase and that no material contention should be excluded on either side.

In answer to Mr. CRIPPS the witness said that he did not agree with Sir John Lubbock that it would be of advantage to add to the boards of directors of the water companies representatives elected by the water consumers.

In answer to Mr. MELLOR the witness said that he did not think it would be possible to compel the companies to amalgamate.

In answer to Mr. CRIPPS the witness said that he considered that the bargains made by the New River Company with their City customers were not fair. It was very unfair to have a bargain. The witness did not explain to whom the bargain was unfair—whether the New River Company were acting unfairly to themselves in not charging their full statutory prices, or whether, on the other hand, the citizens were acting unfairly in not paying to the company a larger sum than the company was satisfied to receive.

In answer to Mr. BAGGALLAY the witness said that he was not aware that the London County Council had opposed "tooth and nail" the proposition that the mains of the East London Waterworks Company and the New River Company should communicate. With regard to the interview which the witness had with the chairmen of the water companies Mr. Baggallay said he could not accept the interpretation which the witness put on the interviews which he had had with them. The chairmen had, the witness said, received him with courtesy and he had afterwards made public the opinion which he had formed, but he would not give any account of the interviews from which he had formed the opinion.

Mr. BAGGALLAY therefore asked the Chairman of the Commission what should be done to clear the matter up. The Chairman suggested that a notice should be given to Sir Arthur Arnold and that afterwards Mr. Baggallay should call as witnesses the chairmen of the water companies.

Mr. MELLOR thought that the interviews were confidential and that it would be better not to call evidence on the matter. What value, he asked, could the Commission attach to Sir Arthur Arnold's expression of opinion? and did the learned counsel suppose that such evidence would have any effect whatever on the Commissioners?

Mr. BAGGALLAY was satisfied with this expression of opinion and asked the witness no more questions.

Mr. SHIRLEY MURPHY said he thought the present system of examining the water-supply was inadequate. In his opinion the same authority ought to be the water-owning authority and the disease-preventing authority. He would have no hesitation in allowing the London County Council to have the management of the water-supply and to be free from external control in respect to its management. He did not think that those who drank water from the Thames were less healthy than those who drank water from the chalk. The death-rate from typhoid fever in London was low. At the present time there was a "feeble virus" of typhoid fever. It might be more difficult to deal with when the virus was of greater intensity.

In answer to Mr. BAGGALLAY the witness said that he believed there was an increase of typhoid fever in 1894 as a result of the quality of the water supplied from the river Lee when it was in flood, but he said it was impossible to trace typhoid fever to the water supplied either from the Thames or from the Lee. The death-rate from typhoid fever in London was less than that in any of the other large towns in England with the exception of Brighton, Bristol, Huddersfield, and Bradford. At the time of the late outbreak of typhoid fever at Maidstone the London County Council asked the London water companies to allow their medical officer and their chief engineer to inspect the companies' works. The London water companies would not allow the visits to be made.

Mr. G. F. DEACON, in answer to the CHAIRMAN, said that he was a civil engineer, that he formerly had charge of the Liverpool Waterworks, and that he had been employed by the London County Council to report on the scheme for supplying London with water from Wales. He put in a "private and confidential" report on which it was suggested that the Commissioners should examine him. His evidence dealt with the cost of the Welsh scheme and with the outlay which would be necessary to make at Staines reservoirs of sufficient capacity to last over periods of drought on the conditions suggested by the Balfour report that water should not be taken from the reservoirs during and immediately after flood or during periods of drought. The witness referred to some diagrams which he had prepared, but it appeared that these were made on the supposition that the London water companies would not draw the amount of water they do at present at the various inlets now in use.

In answer to Major-General SCOTT the witness said that if a system of control were adopted it would be necessary that storage capacity should be increased coincidently with the increase of population, that works should be added as occasion required, that the storage capacity could not be considered satisfactory if there were no reserve, and that for efficient control it was necessary that the controlling authority should have power to compel a company to have a sufficient amount of storage capacity.

In answer to further questions the witness said that there was undoubtedly a tendency to economy in the case of companies which were not rich, and that it was reasonable that the storage capacity should be sufficient to ensure a supply during periods of drought. It was desirable that the controlling authority should have a power of inquisition and a power of entry to see whether there was any falling off in the storage capacity having reference to the increase of population and the authority should have statutory power to get the necessary information; the inspectors of the authority should not be in the pay of the companies. The regulations affecting filter beds required especial care, and actual inspection was absolutely necessary to ensure efficient control.

In answer to Mr. PEMBER the witness said that the nature of the soil on which it was proposed to make the reservoirs in Wales had not been specially examined.

The next sitting of the Commissioners will take place on Monday, May 9th, at the Council Chamber of the Westminster Town Hall.

THE VACCINATION BILL AND THE MEDICAL GUILD.

WE have been asked to publish the following reasons which have been urged by a committee of the Medical Guild against certain provisions in the Vaccination Bill together with a protest concerning certain omissions:—

I.—*Against the extension of the age period.* (Section 1—(1) of the Bill).

(1) The longer period (nine months) during which the child would be unprotected.

(2) Vaccination should be well over before the commencement of teething. If it be delayed until the time of teething or of weaning the troubles incidental to those periods would by many parents be regarded as the direct effects of vaccination and would naturally develop in their minds a prejudice against the operation, which would make vaccination more unpopular than it now is.

(3) As children grow older they become more vigorous and active; consequently the movements of the vaccinated arm would be more energetic and the risk of injury and of erysipelas and blood-poisoning would be correspondingly increased.

(4) In manufacturing towns the extension of the time limit would to a great extent render the Act inoperative on account of the frequent changes of residence which occur among the working classes; many children would be lost sight of by the vaccination officers and would thus remain unvaccinated, partly owing to the difficulty and cost of tracing them and partly to the indifference of the parents.

(5) The extension of the age period is unnecessary because the existing law empowers any medical practitioner to postpone vaccination when the operation is undesirable on account of the state of the child's health.

II.—*Against the abolition of public vaccination stations.*—The retention of public vaccination stations would conduce to the greater safety and efficiency of the operation and avoid needless expense to the ratepayers.

III.—*The provision against repeated penalties* would, it is believed, render compulsory vaccination null and void and would seriously endanger the public health.

IV.—*Two omissions from the bill* are noteworthy and call for protest—

viz., (1) the absence of provision for efficient revaccination, and (2) the absence of a definition of "successful vaccination."

In order to make vaccination by both public and private practitioners more efficient and uniform than it is at the present time the form of certificate for successful vaccination should specify that not less than three vesicles have resulted from the operation.

JOHN DIXON MANN, M.D. St. And., F.R.C.P. Lond., Chairman of the Medical Guild.
R. H. WOLSTENHOLME, M.R.C.S. Eng., Vice-Chairman.
CHARLES G. L. SKINNER, M.D. Aberd., Treasurer.
ALEXANDER STEWART, M.D. Glasg., Hon. Secretary.

Manchester, April 29th, 1898.

THE SPANISH-AMERICAN WAR.

THERE can be no longer any doubt about the extent of the disaster which has befallen Spain. At the battle of Manila the ships of the Spanish Pacific Squadron have either been destroyed by the American fleet or they have been sunk to avoid being captured. The admiral commanding the United States squadron has so irretrievably defeated the naval forces in the Philippines as to have destroyed any hope of success that might have existed on the part of the Spanish Government in this direction. The work of destruction, too, has rarely been accomplished with greater thoroughness and rapidity—a rapidity which in its dramatic effect resembles the transformation scene of a spectacular play. It furnishes the strongest testimony to the dash, courage, and naval skill displayed by Admiral Dewey and his seamen that he was enabled to carry out his brilliant piece of work with such disastrous results to his enemy and with seemingly such very little injury to himself and the fleet under his command. The news of the collapse of the Spanish defence came, too, with something like dramatic surprise, for although it was well known that the preponderance of strength—in size, armament and construction—was greatly in favour of the American ships, it was thought that, what with mines and torpedoes and the guns of the Cavite forts as supplementary aids to their ships, the Spanish authorities might, at any rate, have made the task a far more dangerous and difficult one than it has proved.

The main interest of the war has now been suddenly transferred from the Pacific to the Atlantic Ocean, for the next great naval engagement—if it takes place—between the American and Spanish fleets will, if the result be adverse to Spain, be decisive. That section of the Spanish navy which has not yet been engaged is altogether the stronger portion as it comprises ships of the best construction, armament, and power in the Spanish fleet, and the United States will, if victorious, have undisputed command of the sea and the war will be virtually over. America can then afford to wait and to select the best and most healthy season for her land operations in Cuba and elsewhere.

Putting aside for the moment the effect which the attack on Manila may, indeed must, have on the course of the war, we may ask, Will the United States invade Cuba and strive to drive the Spaniards out? The embarkation and disembarkation of a large military force, such as has been contemplated by the United States, is a difficult and even formidable undertaking for an unprepared country however powerful, especially where the force has to be suddenly thrown on the lowlands of an unhealthy coast at the commencement of the worst season, to say nothing of the fact that the volunteer soldiers are undrilled and unprepared for war and that the naval victory gained by the United States at Manila does not give them command of the sea. No one who realises the nature of the task which the American Government has undertaken can disguise its difficulties; and we may be quite sure that, however much the Jingo element and the impulsive uncalculating section which exists in every population may shut their eyes to these, the President of the United States and his responsible naval, military, and medical authorities do not. Years ago this country, for pressing political reasons, equipped and disembarked a small force for the occupation of Cyprus, which is now one of the most healthy of our foreign stations. What with an exceptionally unhealthy season and the temporary want of adequate preparations a large amount of sickness from climatic fever followed for a time in the regiments encamped there; and it is only to be expected that a force landed in Cuba will undergo a similar but far worse experience. Cuba has an area of some 43,000 square miles. Its length is about 800 miles and its greatest breadth is 125 miles, but in places it does not exceed 25 miles. It consists of a low-lying country and of a rugged mountainous region, with ravines and valleys, some of the mountains having considerable altitude. Havana is about 100 miles distant from Key West and the Bay of Florida. From all we know of the island it has a very unhealthy climate during the hot and wet season from May to October; its marsh lands are fed by underground streams. The longest river of the island, the Cauto, is only navigable for a short course. The low-lying districts are very malarious and, as we have previously said, in addition to climatic and malarious fevers yellow fever may be said to be endemic there. The country is also, in a military sense, a difficult one for campaigning, the uplands and mountainous regions offering facilities for guerilla warfare. It is obvious that a blockade, if it can only be effectively maintained, offers many strategical advantages, but its effect on the already starving insurgents, for whose sakes the United States are fighting, is likely to be disastrous. Supposing the United States to succeed in landing a force and establishing a base of operations somewhere on the seaboard of Cuba, it will, of course, have to be furnished with commissariat and warlike stores and supplies of all kinds and for this purpose, whether the force be large, or small at the first and gradually augmented, America must have and retain command of the sea. Little or nothing is really known as yet of the proposed designs and course of action of the two belligerent Powers; but, as our experience has already shown, there will, in the meantime, be no end of war rumours in order to supply pabulum for the keen appetite which exists for news. The number of medical officers and nurses will have to be large on both the Spanish and American sides, and volunteers for hospital service will, no doubt, be forthcoming now that the war has begun in real earnest. The difficulty is to obtain them of the right stamp in sufficient numbers and to select men with the requisite organising power and experience of medical administration in the field for filling responsible posts.

That the United States are fully alive to the necessity of having an efficient medical service is proved by the fact that quite recently a Bill was introduced into the House of Representatives which provided for the appointment of additional surgeons for the army and authorised the Surgeon-General to appoint as many assistants as he should deem necessary in case of war with Spain. Hitherto the age limit for entrance has been between the ages of twenty-four and twenty-eight years, but the necessity of getting competent medical men to fill naval posts at any cost has been fully recognised, and men up to the age of forty who are willing to attend to the wounded in the Spanish-American War will be received as assistant surgeons. In passing it may be noticed that the preference shown for the army over the navy has nothing to do with the rate of pay, because the naval surgeon gets a far larger salary than his army *confrère*.

On each of the American warships there is a small hospital, and the sick beds are placed between decks. Usually a man is attended to on the spot and then hoisted up or lowered down to the hospital according to where the accident takes place. After an engagement the men whose wounds require long treatment will be transferred to a hospital ambulance ship which is now being rapidly completed. Provision for 150 patients or more is to be made and there will be four surgeons, four apothecaries, and eight trained nurses (men).

At Key West a convent and some school buildings have been offered to the United States Government to be used as a hospital. The sisters of the convent have offered their services as nurses.

It may be mentioned that during the succeeding months the climate of Manila is hot and humid and relatively unhealthy, and much sickness may probably be expected to occur in any army of occupation.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6462 births and 3965 deaths were registered during the week ending April 30th. The annual rate of mortality in these towns, which had declined in the four preceding weeks from 21·5 to 18·1 per 1000, rose again last week to 18·4. In London

the rate was 17·2 per 1000, while it averaged 19·3 in the thirty-two provincial towns. The lowest rates in these towns were 10·3 in Cardiff, 13·0 in Wolverhampton, 13·9 in Nottingham, and 14·7 in Croydon; the highest rates were 22·4 in Newcastle-upon-Tyne, 26·6 in Gateshead, 26·8 in Sunderland, and 30·0 in Liverpool. The 3965 deaths included 467 which were referred to the principal zymotic diseases, against 488 and 472 in the two preceding weeks; of these, 177 resulted from measles, 140 from whooping-cough, 66 from diphtheria, 29 from "fever" (principally enteric), 28 from scarlet fever, and 27 from diarrhœa. No death from any of these diseases was recorded last week in Brighton or in Huddersfield; in the other towns they caused the lowest death-rates in Croydon, Plymouth, and Swansea; and the highest rates in Derby, Halifax, Leicester, and Sunderland. The greatest mortality from measles occurred in Sunderland, London, Oldham, Bristol, Halifax, and Leicester; from whooping-cough in Liverpool, Newcastle-upon-Tyne, Gateshead, and Bolton; and from "fever" in Sunderland and Wolverhampton. The mortality from scarlet fever showed no marked excess in any of the large towns. No death from small-pox was registered in any of the thirty-three large towns; and no small-pox patients were under treatment last week in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in those hospitals and in the London Fever Hospital on Saturday last, was 2302, against 2421, 2384, and 2334 at the end of the three preceding weeks; 205 new cases were admitted during the week, against 234, 217, and 241 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 305 and 283 in the two preceding weeks, further declined to 274 last week and were 83 below the corrected average. The causes of 54, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Manchester, Newcastle-upon-Tyne, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, Blackburn, and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·5 and 22·0 per 1000 in the two preceding weeks, further declined to 21·8 during the week ending April 30th, but exceeded by 3·4 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 17·2 in Edinburgh and 21·1 in Leith to 26·4 in Greenock and 27·2 in Perth. The 657 deaths in these towns included 35 which were referred to measles, 34 to whooping-cough, 17 to diarrhœa, 6 to scarlet fever, 2 to "fever," 1 to diphtheria, and 1 to small-pox. In all, 96 deaths resulted from these principal zymotic diseases, against 79 and 88 in the two preceding weeks. These 96 deaths were equal to an annual rate of 3·2 per 1000, which was 1·0 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 14 and 26 in the two preceding weeks, further rose to 35 last week, of which 30 occurred in Glasgow. The deaths referred to whooping-cough, which had declined from 44 to 25 in the three preceding weeks, rose again to 34 last week, of which 16 were registered in Glasgow, 5 in Dundee, 4 in Edinburgh, and 4 in Aberdeen. The 6 fatal cases of scarlet fever corresponded with the number in the preceding week, and included 4 in Glasgow. The two deaths from "fever" occurred in Edinburgh, and the fatal case of small-pox was recorded in Leith. The deaths referred to diseases of the respiratory organs in these towns, which had been 164 and 151 in the two preceding weeks, further declined to 137 last week, but slightly exceeded the number in the corresponding period of last year. The causes of 33, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 27·1 and 23·3 per 1000 in the two preceding weeks, rose again to 25·4 during the week ending April 30th. During the past four weeks the death-rate in the city has averaged 25·0 per 1000, the rate during the same period being 18·5 in London and 19·4 in Edinburgh. The 170 deaths registered in Dublin during the week under notice showed an increase of 14 upon the number in the preceding week, and included 9 which were referred to the principal zymotic diseases, against 10 and 13 in the two preceding weeks; of these, 3 resulted from whooping-cough, 2 from diphtheria, 2 from "fever," 1 from scarlet fever, and 1 from diarrhœa. These 9 deaths were equal to an annual rate of 1·3 per 1000, the zymotic death-rate during the same period being 2·8 in London and 1·6 in Edinburgh. The fatal cases of whooping-cough, which had been 3 and 2 in the two preceding weeks, rose again to 3 last week. The 2 deaths referred to "fever," corresponded with the number registered in the preceding week, while the mortality from scarlet fever and from diarrhœa showed a decline. The 170 deaths in Dublin last week included 29 of infants under one year of age, and 53 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded the numbers recorded in the preceding week. Five inquest cases and 3 deaths from violence were registered; and 65, or more than a third of the deaths occurred in public institutions. The causes of 15, or nearly 9 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

DEPUTY-INSPECTOR OF HOSPITALS R. GRANT, M.B., to Chatham Hospital. Fleet-Surgeon W. R. White, C.B., to the *Hannibal*. Staff-Surgeons: J. B. B. Triggs to the *Alexandra* and J. L. Aherne to the *Caledonia*. Surgeons: P. K. Nix to the *Hannibal*; W. Jackson to the *Rodney*; A. H. Jeremy to the *Australia*; A. Gaskell to the *Victory*; J. D. Hughes to the *Tartar*; G. Ley to the *St. Vincent*; J. K. Robinson to Bermuda Hospital; and T. E. Honey to the *Defiance*.

ARMY MEDICAL STAFF.

Surgeon-Captain Davoren is under orders for embarkation for India. Surgeon-Lieutenant E. Brodribb proceeds to Worthing for medical charge of troops stationed at Cissbury Camp.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Colonel Hunt, Madras, retires from the service, as does also Surgeon-Captain Hall, temporary half-pay, Madras. Surgeon-Lieutenant-Colonel Bovill, Civil Surgeon of Darjeeling, is appointed to be Civil Surgeon of Murshidabad, but will continue to act as Civil Surgeon of Howrah. Surgeon-Major Drury, officiating Civil Surgeon of Chittagong, is confirmed in that appointment, vice Surgeon-Lieutenant-Colonel Lewtas, transferred. The services of Surgeon-Captain W. Henvey (Bengal) are replaced at the disposal of the Military Department on his return from furlough.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Major William Collingridge, M.D., to be Surgeon-Lieutenant-Colonel on increase of Establishment.

VOLUNTEER CORPS.

Rifle: 4th Volunteer Battalion the Queen's (Royal West Surrey Regiment): Surgeon-Lieutenant E. A. Malcolmson resigns his commission. 1st Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant L. A. Morgan, M.D., resigns his commission. 1st Volunteer Battalion the Hampshire Regiment: William Brooks Colquhoun, to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Durham Light Infantry: Surgeon-Major T. A. McCullagh to be Surgeon-Lieutenant-Colonel. 1st Dumbartonshire: Surgeon-Captain J. Wylie, M.B., resigns his commission.

THE VOLUNTEER OFFICERS' DECORATION.

The Queen has conferred the Volunteer Officers' Decoration upon the under-mentioned officers of the Volunteer Force:—*Home District: Rifle:* 2nd Volunteer Battalion the East Surrey Regiment: Surgeon-Major William Gandy. *North-Eastern District: Rifle:* 1st Volunteer Battalion the Lincolnshire Regiment: Captain and Honorary Major Frederic Riggall, Surgeon-Lieutenant-Colonel Henry Wright and Surgeon-Captain George May Lowe, M.D. *Scottish District: Rifle:* 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry: Surgeon-Lieutenant-Colonel David Cowie, M.B. 6th Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant-Colonel Robert Shand Turner, M.D.

MEDICAL HEROISM IN CUBA.

There seems to be no doubt that in many respects the Cubans have received cruel, not to say barbarous, treatment at the hands of their Spanish masters, but happily this grave charge is not of universal application. The medical officers of the Spanish army, as befits men practising the art of healing, have in many instances acted noble parts and at least one of their number has exhibited heroism of the very highest order. In the course of a sanguinary engagement with the insurgents Dr. Duran proceeded to the front line with the intention of affording aid to the Spanish soldiers who were falling rapidly under a hot fire; but scarcely had he reached the scene of action when he was struck by a Mauser bullet which shattered his knee-joint. In this piteous condition Dr. Duran managed, with the help of his orderlies, to bind up his own wound and then forthwith commenced a series of no fewer than twenty major operations on others, inclusive of reduction of protruding intestine with suture of abdominal opening, extraction of bullets in various situations, adjustment of compound fracture of the leg, &c. Many of Dr. Duran's colleagues have been killed in the course of this lamentable campaign and others have died from disease; while several more, having been unfortunate enough to fall into the hands of the insurgents who do not respect the Geneva convention, have undergone the most barbarous treatment. One of the latter, a young and promising surgeon, was taken prisoner and subsequently set at liberty, but not until both his hands had been severed at the wrists with a hatchet.

THE FRENCH ARMY MEDICAL SERVICE.

The Minister of War's Bill for the reorganisation of the French Army Medical Service, of which our Paris correspondent gave some details in a recent letter,[1] has been adopted by the Chamber of Deputies without discussion as an urgent measure. According to *La Semaine Médicale* the number of officers in each grade is as follows:—

	Old Cadre.	New Cadre.
Inspector-General	1	1
Inspectors	9	11
Principal Medical Officers, 1st class	45	45
,, ,, ,, 2nd ,,	45	60
Surgeon-Majors, 1st class	320	340
,, ,, 2nd ,,	480	500
Surgeons, 1st class	300	400
,, 2nd ,,	100	50
Assistant Surgeons	—	50
Totals	1300	1457

THE WEST AFRICAN TROUBLE.

The mail-steamer *Accra*, which arrived at Liverpool on May 1st, brought some wounded officers who had been in the fighting at Sierra Leone, and among them Surgeon-Captain Scott, A.M.S. This officer, who had previously seen service with the Chitral relief expedition, is reported to have behaved with great gallantry whilst accompanying Major Norris's force in their march between Karene and Port Lokko. Surgeon-Captain Scott, after having been severely wounded in the thigh and elsewhere, ignoring his own injuries and sufferings, attended with the greatest devotion to the wounds of several natives of the company who had been shot in the same engagement.

OPERATIONS IN THE SOUDAN.

It is believed that the Anglo-Egyptian force will be strengthened by the addition of four British regiments before the final advance is made on Khartoum. It is not quite certain yet whether the advance will take place in August or October. In spite of the severe defeat which the Dervishes have received it is highly probable that the Khalifa's force will make a strong resistance at the last. The Anglo-Egyptian troops in the field and at Berber are healthy, but the heat is beginning to be great and, as might be expected, some cases of fever and dysentery have occurred.

MORTALITY IN THE NAVY AND ARMY.

Mr. James J. McLauchlan recently quoted some interesting statistics in a lecture which he delivered before the Institute of Actuaries. The conditions under which the sailor and soldier live are far more sanitary now than in the past, and it is not surprising to find that longevity in the services should have considerably improved within the last three decades. In 1865 over 11 deaths occurred in every 1000 men afloat, while ten years later the number fell to 6·8, in 1885 to 5·4, and in 1895 to 4·4. In the army the figures are not quite so satisfactory.

[1] THE LANCET, April 2nd, 1898, p. 966.

LEAN'S ROYAL NAVY LIST.

The April issue of this valuable publication revised up to March 25th is now ready and can be obtained from Messrs. Witherby and Co., 326, High Holborn and 4, Newman's-court, Cornhill. The publication is so well known and widely used that it would be superfluous to describe its contents. Suffice it to say that this almost encyclopædic work of reference on all official matters connected with the Royal Navy and the officers of that service and the Royal Marines has been brought up to date.

DEATHS IN THE SERVICES.

Brigade-Surgeon George Morcrieff Govan, M.D. (retired), late Bengal Medical Service (3rd Goorkhas), at Almera, North-West Provinces, India, on April 1st, in his sixty-seventh year. He served in the Burmese War, 1852–53, including the capture of Rangoon and storming of the blockades of the Dragon Pagoda (medal and clasp), and in the Bhootan expedition, 1864–66, including the capture of Buxa and Tezagaon, attack on the Bala Stockade, &c. (clasp).

Correspondence.

"Audi alteram partem."

"THE DIPLOMA OF THE APOTHECARIES. SOCIETY."

To the Editors of THE LANCET.

SIRS,—I have been somewhat surprised that until the letter of "L.S.A." no correspondence has appeared in the leading medical paper with reference to the action of the General Medical Council and the L.S.A. qualification. It appears to me that—observing the personalities of this august body—it is the outcome of the not very remote action of the general practitioners themselves. They were called upon to elect to the Council a gentleman to safeguard and promote their own interests. Did they do so? Instead of electing a gentleman engaged directly in general practice, cognisant of its worries, cares, and responsibilities, they return a gentleman who, holding a high position in the scientific world, with absolutely nothing in common with the general practitioner and holding views of things appertaining to the profession peculiarly his own, feels called upon to show contempt for the Society of Apothecaries and its Licence. Mark what is the result: an unwarrantable attack on a gentleman holding the L.S.A. and who has passed a creditable examination in surgery, in medicine, and in midwifery, approved and sanctioned by the General Medical Council itself. I am not myself a L.S.A., but I respect all men who hold the diploma and if a gentleman so qualified is not to be styled a surgeon and a physician, what word must be coined to designate this Licentiate? But worse, far worse, is the unnecessary persecution of this properly qualified practitioner, who holding the degree of M.D. is not allowed by this almighty council of men to style himself "Doctor" because, forsooth, they refuse to register this degree, not being a British one.

What about the M.D. Brussels? What about the bastard M.D.—viz., the M.B.? Is a LL.D. or a D.D. holding the M.R.C.S. to be debarred from being addressed as "Doctor" because certain persons might be led to believe his title implied he was a doctor of medicine? If so let the general practitioners take steps to prevent certain of those who sit in high places in our profession who hold the F.R.C.S. Eng. and LL.D. (Hon. Caus.) from being addressed as and using the title of "Doctor." I am acquainted with a gentleman, a M.D., who is a practising barrister-at-law. As well might the Incorporated Law Society restrain him from using the title of "Doctor" implying (to some minds) that he is a doctor of law.

Evidently in this sudden accession of stimulation applied to the General Medical Council, the general practitioner is to be persecuted, whilst as your correspondent "L.S.A." rightly states "the ignorant quack may practise with impunity"—and so may the prescribing chemist—and so

may certain gentlemen holding the M.D. of a British university who countenance canvassing touts and are sweated by one penny per week friendly societies. Truly the General Medical Council is a quaint body.

I am, Sirs, yours faithfully,

Mortimer-street, W., May 2nd, 1898. PERCY POPE, M.R.C.S.

"COLLAPSE FOLLOWING LAPAROTOMY."

To the Editors of THE LANCET.

SIRS,—In reference to the error in THE LANCET of April 23rd as to the amount of brandy injected intravenously, corrected by Dr. Bolton in THE LANCET of April 30th, the following case may be of interest, especially as it was due to Dr. Bolton's first note that we injected the larger quantity. An unmarried woman, aged twenty-three years, was admitted into this hospital on April 25th, under the care of Mr Whipple, with a large, hard, solid tumour of the left ovary, sarcomatous in nature, and reaching as high as the umbilicus.

On April 26th an examination under chloroform was made and on the 28th the abdomen was opened in the middle line by Mr. Whipple, who removed the whole growth, though with great difficulty. The omentum and bowel were intimately connected with the tumour, the adhesions being extremely vascular, with omental veins as large as a No. 12 catheter, constantly requiring ligature. The growth was so adherent to the uterus and had so infiltrated the broad ligament that it was necessary to remove the uterus with the right appendages. The uterus was amputated at the internal os, flaps of peritoneum being raised from the fundus and sutured over the stump with Lembert's stitches. Finally, a secondary growth was removed from the omentum close to the great curvature of the stomach. After filling the abdominal cavity with warm, sterilised saline solution the wound was closed without drainage. The operation lasted two and three-quarter hours and at the end of the first hour the bleeding, which was very profuse, had so told upon the patient that her pulse was almost imperceptible at the wrist and at one time it was feared that she would not leave the table alive. The right basilic vein was therefore opened and 3 pints of saline solution (100° F.) with 4 oz. (*sic*) of brandy were injected. After a pint had been introduced the result was marked, the pulse becoming of good force and tension, the normal colour of the lips returned, and the eyes, which before were glazed and staring, resumed their natural appearance; the injection of the remaining 2 pints was continued during the rest of the operation, so that with the addition of 5 minims of strychnine hypodermically and a nutrient enema on leaving the table she had a temperature of 99·6°, her pulse was 84, and her respirations were 28. For the next few hours the temperature varied about 100°, the pulse was 140, and the respirations 34. Since then (now the fourth day) the temperature has been 98°, the pulse 86, and the respirations 20. She has had absolutely no pain, only once been sick, and apparently suffered not at all from shock. I have, I think, rarely seen a patient suffer less from an abdominal operation, and this, as the foregoing shows, was an exceedingly severe one, and certainly have never seen any abdominal patient after ordinary saline injection (of which we have had several lately) do so well.

My best thanks are due to Mr. Whipple for his kindness in permitting me to publish the case and he desires me to state that he is firmly convinced that the patient's excellent condition immediately after and since the operation was entirely due to the brandy.

I am, Sirs, yours faithfully,

J. DILL RUSSELL, B.S. Lond.,

Senior House Surgeon, South Devon and East Cornwall Hospital.

Plymouth, May 1st, 1898.

*** We have received a confirmatory letter from Mr. Whipple, and also a note from Mr. Dill Russell, informing us that only 3 ounces of brandy were ordered, but that the solution received by error an additional ounce of brandy. By a somewhat singular coincidence we find in a paper published in the *Practitioner* for May the following. The author, Dr. D. J. Leech, is writing on the treatment of bronchitis, and says: "I advised drachm doses of ipecacuanha wine every four hours. Next day I found the patient much relieved and charmed with the medicine, which had caused sickness, but not much. I found, however, that by mistake the wine had been administered in ounce doses."—ED. L.

"IMPORTANT VERDICT AS TO MEDICAL FEES IN HOSPITALS."

To the Editors of THE LANCET.

SIRS,—With reference to the case alluded to by you of Dr. Cranny *v* Mr. T. J. Lee for fees for surgical attendance[1] allow me to place before you the following letter which I received about 10 P.M. on the night of the occurrence. It is from the house surgeon of the hospital.

Jervis-street Hospital,
17 xi. 1896.

DEAR DR. CRANNY,—There is a gentleman of the name of Lee (Alexander and Co., Mary's Abbey) who has just come in here with a compound fracture of leg. He is most anxious to see you and asked me to send for you at once if you would be kind enough to come.

Yours, &c.,
MORE CARAHER."

From this letter, which, owing to the rules of evidence, was not allowed to be placed before the jury, it appears to me that I was justified in the position which I assumed, and which position was endorsed by the learned judge and by the jury—viz., that I was under the impression that I was specifically retained at the request of the defendant to take charge of his case. The law as laid down, and no doubt correctly, by the learned judge has decided otherwise. The important question remains as to whether a person of independent means suffering from an accident or injury, and being admitted to a hospital and being cared for and treated as the necessities of his case demanded (of which no question arises), but being in the rank of life capable of paying for surgical treatment, he should have a claim for the services of any hospital surgeon without paying for them because this surgeon is expected to attend the poor without fee or reward and because the patient has paid for his private ward a sum of 3 guineas a week to cover his maintenance and nursing. I submit that no hospital authority has the right to farm out the services of surgeons, nor, indeed, in my case do the managing committee of my hospital assert any such right. It would, in my opinion, be extremely detrimental to private practice were such a claim made. Need I add that had a plea of inability to pay been made nothing further would have been heard of the case. It will be a warning to the profession to safeguard themselves.

I am, Sirs, yours faithfully,

Merrion-square, Dublin, April 30th, 1898. JOHN J. CRANNY.

*** Dr. Cranny has enclosed a copy of the following letter from the defendant:—

[ENCLOSURE.]

Geo. Alexander and Co.
Telegraphic Address: Alexander and Co., Dublin.

2, 3, 4, and 5, Mary's Abbey, Dublin,
16 June, 1897.

Dear Dr. Cranny,—I do not know how to apologise to you for my neglect in not calling upon you to thank you for all your kindness to me and to settle my indebtedness. Please let me know amount and I shall send you cheque with sincere thankfulness. Trusting you will overlook delay,

Believe me, yours truly,
(Signed) THOMAS J. LEE.

J. J. Cranny, Esq., M.D., 17, Merrion-square.

"A GRAVE PUBLIC DANGER."

To the Editors of THE LANCET.

SIRS,—With regard to the injury from combustion of a celluloid comb, reference to which has been made in your columns, I beg to say that the young lady was sitting on the hearthrug near the fire when she became suddenly aware that her head was on fire, and if it had not been for the presence of mind displayed by a friend who happened to be in the room the injuries must have been much more serious than they were. The actual injury was a burn of the third degree (Dupuytren's classification) over the right parietal region, surface extent 3½ × 1½ in., and there was considerable shock to the nervous system, which happily was soon overcome. I am glad you are taking up this matter, as I am sure ladies using these combs have no idea of the danger they are carrying in their heads.

I am, Sirs, yours faithfully,

Gravesend, April 23rd, 1898. C. J. W. PINCHING.

[1] THE LANCET, April 30th, 1898, p. 1222.

MEDICAL POLITICS.

To the Editors of THE LANCET.

SIRS,—All medical men must admire Mr. Victor Horsley's attempt to make registration the narrow way through which alone the right to practise for gain can be obtained. But if the right to sell drugs remains the privilege not only of the chemist but also of the man in the street, of what value is the assertion of the law as regards registration? The chemist can still prescribe *sub rosa*, and the quack can still blow his brazen trumpet in the market and the press. I fully sympathise with Mr. Horsley's effort, but these loopholes seem to me still open. These avenues to unqualified practice can never be wholly closed; perhaps it is not desirable that they should. A compromise is all that is possible and most practical legislation is compromise. If we were a prescribing instead of a dispensing profession it would no longer be the chemist's interest to evade the law; compulsory publication of the active ingredients of proprietary medicines would do much to lessen the evils of quackery. We no longer keep apothecaries' shops, but the spirit of trade, of cutting and underselling still exists; and if we take our stand as professional men, not as tradesmen, we must minimise that spirit.

I remain, Sirs, yours faithfully,

Loughborough, April 23rd, 1898. J. B. PIKE.

THE LIMITS OF PROFESSIONAL SECRECY.

To the Editors of THE LANCET.

SIRS,—I am anxious to know the law with regard to the divulgence of professional secrets, other than criminal, arising in the case of a servant in the employ of the payer of the fee. Should the servant have a disease (say drink or pregnancy) which would entail dismissal from service if known to the employer, is the medical man, paid by such employer, at liberty to divulge on inquiry by the employer such confidence of the servant? Can any damage be claimed in such a case by the servant so dismissed from the medical man who has caused dismissal by divulgence of professional secrets to the employer who is responsible for services to such servant? Is it a matter of contract between the employer (who pays for) and the attending practitioner? or is the monetary consideration overridden by the law of professional secrecy? I am, Sirs, yours truly,

Cheniston-gardens, W., April 26th, 1899. E. A. BARTON.

TINCTURA BELLADONNÆ B.P. 1898.

To the Editors of THE LANCET.

SIRS,—The increase in strength of this preparation is so marked that we think it desirable to call the attention of prescribers to the fact. It is now required to contain about 0·05 per cent. of alkaloid. The tincture prepared according to B.P. 1885 rarely contained more than 0·025 per cent. of alkaloid, so that for all practical purposes the new tincture is double the strength of the old, while the official dose remains almost the same. We hear from Messrs. Spottiswoode and Co., the publishers of the Pharmacopœia, that that work will not be obtainable till May 11th, although by its advertisement in the *Gazette* on Friday last it became binding on all dispensers. It would therefore be a great benefit if for the present prescribers would indicate by which Pharmacopœia they desire their prescriptions to be made up, as the above is not the only preparation of which the strength has been materially altered.

We are, Sirs, yours faithfully,

Oxford-street, W., May 3rd, 1898. JOHN BELL AND CO.

"A NEW OPERATION TABLE."

To the Editors of THE LANCET.

SIRS,—In your description of an operation table in THE LANCET of April 30th you state it is said to be the first table ever made whereon the patient can be placed in the Trendelenburg position without loss of heat. We venture to point out that this surmise is not correct as there are several operation tables of our manufacture in use at institutions in London and the provinces in which this provision is made, and one of these tables was on view during the whole of last summer in the Aseptic Operation Theatre at the Victorian Era Exhibition at Earl's-court. Trusting you will kindly insert this correction,

We are, Sirs, yours faithfully,

St. Thomas's-street, London, S.E., May 4th, 1898. DOWN BROS.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague in India.—Lessened Mortality in Bombay.—Outbreak at Kurrachee.

THE steady and marked decline in the number of plague deaths in Bombay almost day by day for the past three weeks has reassured the public mind and the almost complete relaxation of repressive sanitary measures has also contributed to a more contented state of the people. There is reason to believe that the number of deaths from other diseases than plague is considerably less than normal, so that except for the outbreak of a fresh epidemic of some other disease the average mortality may soon be anticipated. There are districts on the outskirts of the city where the disease is languidly spreading, but among the thickly populated quarters it is rapidly dying out.

The lesson to be learnt from these facts is that once an epidemic of plague has passed its point of highest intensity and has begun to show unmistakeable signs of decline it will not revive again, but will continue its course of abatement notwithstanding the abandonment of all sanitary precautions against its spread. The conditions for its survival and spread exist just as before, but the organisms of plague would seem to have what may be called a national life-history of which we know nothing, as well as an individual life-history about which we are only just beginning to collect a few facts. The native committees and other native organisations for detecting cases of plague do not seem to be more successful than their European predecessors. There still continue to be recorded daily about the same proportion of undetected cases of plague. Kurrachee has now become attacked—the totals to date being 77 cases and 42 deaths—and the town has been declared an infected port within the meaning of the Venice Convention. At Simla considerable opposition is being raised by the Hindus and Mohammedans regarding the proposed plague precautionary measures. The Hindus suggest that certain men of each sect should report when plague cases occur and that only then should the medical authorities act. House visitation and segregation are opposed. Should these suggestions be acquiesced in by the Government it is obvious that the sanitary measures will merely follow the plague and will not be ahead of it. Such a course has already proved in other places almost useless.

Arrangements are being made for a congress of the profession to be held in Bombay next December having for its chief object to consider the most appropriate means of dealing with plague epidemics in Indian cities, towns, and villages. What with the great improvement trust scheme and the reorganisation and elaboration of the health department, Bombay is actively preparing not only to wipe out its evil sanitary reputation but to establish an enlarged and beautified city.

April 15th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Sewage Treatment and the Local Government Board.

THE discussion as to the treatment of the Manchester sewage, adjourned from the previous meeting of the City Council, was resumed at an adjourned special meeting held on April 20th. One of the objections urged against the adoption of the "bacterial system" was that, unlike that of such a place as Sutton, the sewage of Manchester was destructive to bacterial life, being charged with the effluents from chemical and other works, and that therefore the system must fail. It was pointed out, however, that it had been tried for some years and had succeeded at Oldham, where the sewage was of much the same character as at Manchester, and further that the report of the chemist of the corporation, mentioned in my last letter, "had shown conclusively

that the sewage of Manchester was practically purified by the passage through the bacteria beds." An amendment to the resolution mentioned below was moved, but rejected, to defer all action till the report of the Royal Commission on the subject of sewage disposal had been received. But not only was delay advised; some wished the discarded culvert scheme to be revived, while others objected to the purchase of the 200 acres of land at present insisted on by the Local Government Board. The gist of the resolution adopted was that the recommendations of the rivers committee be adopted so far as they advised "the construction of bacteria beds upon 37 acres of land at the Davyhulme sewage works," and "the purchase of the necessary land for the aeration of the effluent after it has passed through the bacterial filter beds." The Local Government Board in accordance with ancient custom insist on the purchase of these 200 acres; but if as the result of further experience or of negotiations with the board the land should not be required for sewage purification it is believed that it will be a valuable asset to the corporation.

Proposed Extension of Monsall Hospital.

At the same meeting of the City Council a resolution was adopted in favour of seeking power to borrow £27,500 for the extension of Monsall Fever Hospital. The chairman of the sanitary committee explained that the extension was for the purpose of providing larger and better accommodation for nurses and servants and securing and laying out land for recreation and exercise. He said that no small-pox cases were to be taken to Monsall, but that in due time a scheme for a permanent small-pox hospital for the city would be laid before the Council.

Progress of Electric Lighting.

Mr. Alderman Higginbottom, chairman of the electricity committee of the City Council, brought forward at the same meeting the recommendation of the committee to apply to the Local Government Board for their sanction to the borrowing of the further sum of £150,000 for various extensions of the "electricity undertaking" of the corporation. The large scale on which this undertaking was first launched appeared to some to be rash and almost reckless, but the expectations of the committee have proved far too modest. Alderman Sir John Harwood said "it was ridiculous to come time after time for small sums"; he would have been in favour of £300,000, but he moved an amendment that £200,000 be asked. This was carried and is no doubt justified by the continuous and rapid development of the undertaking. The use of gas is also increasing instead of being lessened by its active competitor, as if the more artificial light the people have the more they want.

The Infirmary Board and the Spiritualists.

A matter was brought before the board of the Manchester Royal Infirmary on the 25th ult. which is outside the routine of their ordinary business. It was reported at a meeting of the house committee that a parade of the Spiritualists took place on the infirmary flags on the afternoon of Sunday, April 10th. Those responsible for the parade stated that permission had been given by the Watch Committee of the corporation. The house committee therefore decided to ask the town clerk of Manchester under what circumstances and conditions such permission was given as there had been no communication from the Watch Committee or the officials of the parade. We must fain hope that no serious consequences will ensue, but the question is evidently a grave one and cannot be answered offhand, for "the town clerk replied, stating that the matter would receive attention." At present no one seems any the worse from so many eccentrics having been collected together.

May 3rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Pathological Diagnosis Society of Liverpool.

THE first annual report of the Pathological Diagnosis Society of Liverpool, founded by Professor Boyce in May, 1897, has just been issued. During the last twelve months 179 medical practitioners have become members of the society, to whom over 500 reports on specimens examined have been sent. These reports chiefly dealt with the bacteriological examination of sputum and suspected diphtheria cases, the serum reaction for typhoid fever, and the examination of urinary deposits and of tumours. The report deals with directions for the selection and transmission of sputum, laying stress upon the advisability of sending the more solid portion of the expectorated material, unmixed with any fluid, which should be transmitted in a clean, wide-mouthed bottle. The sputum has been examined chiefly for the tubercle bacillus, which was found in about one-half the number of cases sent, the method used being the ordinary staining with carbol-fuchsine, followed by decolourisation in 25 per cent. acid. 77 cases of suspected diphtheria have been sent to the laboratory, of which 38 were returned as containing the Löffler bacillus, 23 as growths of other organisms, chiefly staphylococci and the pseudo-bacillus of Roux and Yersin, whilst in 16 cases growths were absent. Useful directions are given under the heading of Diphtheria as to the mode of obtaining and transmitting the material to be examined. In the case of tumours 47 specimens were sent to be examined, only a few of which presented features of special interest. In the matter of typhoid serum reaction 140 specimens were examined and reported upon; the results obtained were in accordance with those of other observers and were very satisfactory. Dr. S. R. Christophers, who for the last six months has been investigating the agglutinative action of various sera, has inserted in the report a short but interesting account of the serum diagnosis. About 70 specimens of urine were sent and reported upon. As regards the presence of the tubercle bacillus in urine, which is diagnostic of tuberculosis of the urinary tract, a difficulty in recognition consists in the fact that the smegma bacillus stains in the manner which is also characteristic of the tubercle bacillus. It is therefore desirable that urine for examination should be drawn off by means of a catheter. Inoculation experiments have also been made for the recognition of rabies, tuberculosis, and anthrax.

Ladies' Charity and Lying in Hospital.

Dr. Alexander Stookes has been appointed to the vacancy in the honorary hospital medical staff. Dr. Stookes had been for some years one of the district medical officers of the charity.

Death of James Mercer Johnson, M.D. St. And.

The death occurred, on April 22nd, of Dr. James Mercer Johnson at the age of sixty-eight years. Dr. Johnson retired from practice a few years ago owing to failing health. The deceased at one time had an extensive practice in Everton and for many years was attached to one of the volunteer corps in the capacity of surgeon. He was also a prominent Freemason and was much esteemed by his numerous friends and former patients. Dr. Johnson graduated as M.D. at the University of St. Andrew in 1862.

Extension of the St. Helen's Borough Sanatorium.

The additions recently made to the St. Helen's Borough Sanatorium at Peasley Cross were opened on April 28th by the mayor of St. Helen's. The sanatorium was first opened in 1882 and consisted of an old house containing seven rooms with an average number of patients of twelve per annum. Extensions have taken place since the year 1886. Upon the Council deciding that the hospital should be free the number of patients rapidly increased. Two large pavilions were erected in 1894, but even then the accommodation was found to be inadequate. A further enlargement was decided upon last year when the new buildings recently opened were directed to be built. The total cost of the extensions has been £6389 Altogether the sanatorium or fever hospital has cost £14,120.

Mersey Volunteer Infantry Brigade.

Brigade-Surgeon-Lieutenant-Colonel W. J. Fleetwood has been promoted to the position of senior medical officer of the Mersey Volunteer Brigade. Brigade-Surgeon-Lieutenant-Colonel Fleetwood is known in Liverpool as a most enthusiastic and industrious volunteer medical officer and his promotion has given much satisfaction to the men of all ranks in the service. He took an active interest in the ambulance work of the 4th V.B. the King's Regiment, his own corps, and also in the work of the bearer company of the Mersey Volunteer Infantry Brigade. He also possesses the volunteer decoration. His promotion is due to the retirement after a long course of service of Brigade-Surgeon-Lieutenant-Colonel T. M. Wills, V.D.

May 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

A New Hospital for Phthisical Patients.

ON April 30th a numerous company of ladies and gentlemen, including several prominent members of the medical profession in Glasgow, visited the new Consumption Hospital established by Mr. Quarrier near his Orphan Homes at Bridge of Weir, Renfrewshire. The hospital contains forty beds, none of which are on the ground floor. The majority of the sleeping rooms have only one bed, but there are eight with two beds each. Lodgment of dust is carefully guarded against, all the windows are double with the exception of those for the staff and those of the two convalescent rooms, and all the rooms have hollow walls with air cushions so as to maintain a uniform temperature at all times. The propulsion system is employed for ventilation, the walls of each room being pierced with apertures for the purpose. The sewage is treated by a putrefaction system of purification, the arrangements for which have been designed by Mr. Copland, C.E., acting in consultation with Dr. A. C. Munro, medical officer of health of Renfrewshire. After the inspection Sir William Gairdner, K.C.B., delivered an address, in which he referred in very complimentary terms to the work accomplished by Mr. Quarrier, who, in his reply, said that £25,000 had been spent and that £35,000 more was being asked for with a view to the erection of five additional buildings, whereupon they would have 200 beds. He did not want paying patients, but he did not mean to imply that he would refuse them. If the hospital succeeded there might be a special one built for paying patients.

May 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Dr. Samuel Gordon.

DR. SAMUEL GORDON, who died on April 29th, in his eighty-second year, for a long time held a very prominent place among Dublin physicians. His various hospital appointments included that of consulting physician to the Coombe Lying-in Hospital. He was an ex-President of the Royal College of Physicians of Ireland and of the Royal Academy of Medicine of Ireland and up to the beginning of the present year he was President of the Royal Zoological Society of Ireland. His published works consisted of lectures on fever and clinical reports contributed to the medical journals.

The New Asylum for County Londonderry.

Matters have almost reached a deadlock in reference to this asylum. It would appear that the architect of the Board of Control in November last estimated the cost of the new asylum, to accommodate 600 inmates, as £90,000. The governors increased the amount to £110,000, but at a special meeting held on April 26th a letter was read from the architect announcing that as the estimate for the builders was £118 341 further reductions had been made by means of which the cost had been reduced to £114,370; but if this was too much the architect suggested further revisions to bring the sum down to £112,677. It is proposed to construct the building of brick in a plain and substantial manner, heated by hot water circulating at low pressure, and lighted by electricity. The governors seemed very dissatisfied that the sum they had proposed in November had been exceeded and the whole matter will have to be delayed another month to give time to rescind their former resolution. So much delay has been occasioned that the matter may as well be allowed to remain until the Board of Control is dismissed and county councils are established.

The Medical Staff of the Belfast Workhouse.

At an inquest held in Belfast on April 27th in reference to a child who while very ill had been removed from the Union Infirmary one of the intern medical officers of that institution stated that four medical men were expected to attend to 1900 patients. In the convalescent ward there were 387 patients and it was the duty of one medical man to attend to 400 patients in the infirmary. The jury in their verdict attached no blame to the medical man as it was impossible for him to attend to 700 patients daily. They strongly condemned a system which permitted this and requested the coroner to bring the matter before the Local Government Board.

The Belfast Corporation (Hospitals) Bill.

At a meeting of the Belfast Corporation, held in committee on April 20th, the Town Clerk read a letter from the Roman Catholic Bishop of Down and Connor, suggesting that instead of making the grant of £5500 at first asked for on behalf of the Mater Infirmorum Hospital the corporation should insert a clause in the Bill undertaking to pay £150 per annum to that institution. After some discussion the following resolution was adopted:—

That as the corporation, when considering the application for the grant of a site for the Royal Victoria Hospital, believed that in acceding to the request they were acting in conformity with the unanimous wish of the ratepayers, and were granting a site for a general hospital that would not only be open for the reception of all sections of the community, but be governed and managed by the representatives of all sections, and subject to the control of the subscribers of all denominations, the corporation cannot see their way to depart from these broad lines and are of opinion that if the claim of the Mater Infirmorum Hospital were acceded to much stronger claims could, and no doubt would, be presented by the several other hospitals in Belfast.

The Bill (one of the objects of which is to allow the city corporation to give five or six acres of the lunatic asylum ground within the city as a site for the New Royal Victoria Hospital) came up for second reading in the House of Commons on April 26th. A special whip had been sent out in its favour by all the members for the city of Belfast. The second reading was carried by a large majority—175—and the amendment to refer it to a hybrid committee was also defeated. It was a very great mistake that any religious dispute should have arisen in connexion with this new non-sectarian hospital and it has given great satisfaction in Belfast that the House of Commons declined to consider a hospital question in such a light.

Irish University Education.

At a recent meeting of the archbishops and bishops of the Roman Catholic Church in Ireland resolutions were passed in which it was announced that statements recently made that they had been conducting private negotiations with the Government in reference to the Irish University question were denied. They also requested the Irish Members of Parliament to oppose by every means in their power the estimates for the Queen's colleges until the Government pledge themselves to bring in a measure to satisfy the demands of Irish Catholics in the matter of university education.

Belfast Dispensary Medical Officers.

The Belfast Dispensary Committee at their meeting on May 2nd showed their appreciation of their medical officers by deciding that each of the dispensary medical practitioners should get a fortnight's holiday and that their locum tenentes should be paid by the board of guardians.

Health of Belfast.

The report presented at the monthly meeting of the city council (May 2nd) of the health of Belfast from March 20th to April 23rd shows that in this period there were 1138 births registered and 765 deaths. There were 114 deaths from zymotic disease, 113 from phthisis, and 198 from diseases of the respiratory organs. The death-rate (annual) from all causes was 26·2. The deaths from chest diseases are in this period shown to be steadily decreasing. The number of cases of typhoid fever and the deaths therefrom are still high. Scarlet fever, though of a mild type, is on the increase, and deaths from measles are becoming more numerous.

The North Infirmary, Cork: Resignation of the Honorary Treasurer.

At the annual meeting of subscribers to the Cork North Infirmary held to-day it was announced that Mr. P. J. Forde, the honorary treasurer, had signified his intention of resigning owing to ill-health. During the twenty-two years that Mr. Forde has been in office he discharged his onerous and responsible duties with great assiduity and zeal and took more than a parental interest in the welfare of this important charity. He was ever ready to gratefully recognise the important services rendered by the medical staff of the institution and successive generations of physicians and surgeons have a lively recollection of his unvarying urbanity and courtesy. They could always count on the honorary treasurer to assist them in keeping their hospital thoroughly abreast with the progress of medical

science. A gentleman of broad and sympathetic views Mr. Forde was instrumental in procuring many improvements for the comfort and welfare of the patients. All regret the cause of his resignation and it is generally felt that it will be very difficult to find a worthy successor.

Appointment of Assistant Medical Superintendent at the Cork Lunatic Asylum.

The governors of the Cork District Lunatic Asylum decided on appointing a fourth assistant medical superintendent. Dr. Ross and Dr. John Fitzgerald were candidates for the appointment and on two occasions received an equal number of votes. At a meeting held to-day Dr. Ross withdrew and Dr. Fitzgerald was elected.

May 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Warty Growths on the Back of the Right Hand in the Tuberculous.

AT a recent meeting of the Hospitals Medical Society M. A. Béclère drew attention to the frequency of warty growths on the back of the right hand and also on the thumb and index finger of the same hand in patients suffering from pulmonary tuberculosis. Out of 24 cases under his care at the Tenon Hospital 4 exhibited these warts. In 1 case only were these growths on the left hand and that patient was a man left-handed from birth. A suggested explanation for the presence of the warts in the specified situation is the habit persons have of wiping the moustache and the lips with the back of the hand, especially with that portion of the metacarpus involving the thumb and index region. Infectious saliva is thus transferred to the hand and remains for a longer or shorter time on the skin, especially in the case of workmen who have not very frequent opportunities of washing their hands while at work. One of M. Béclère's patients was a mason who frequently wiped his mouth with the back of his hand to wipe off the dust from plaster, &c., which clung to his moustache. Another was troubled with itching of the upper lip and often rubbed it with the back of his thumb.

Functions of the Pituitary Body.

M. E. de Cyon laid before the Academy of Sciences at their meeting of April 5th the result of his researches on the functions of the pituitary body. He considered that from its situation the pituitary body is peculiarly prone to be affected by variations in pressure, whether that of the cerebro-spinal fluid or the blood. As a fact, excitation of this body manifests itself by a marked change in blood-pressure and by a considerable slowing of the beats of the heart, while at the same time the force of the heart-beat is considerably increased. This slowing of the heart-beat, which has been attributed up to now to the direct stimulation of the nerve-endings of the pneumogastric in the medulla, is only due as a fact to a reflex stimulation of these endings and the origin of the stimulus lies in the pituitary body. After ablation of the pituitary body occlusion of the abdominal aorta no longer brings about slowing of the heart-beat. After the pneumogastrics are excited the rate of the venous circulation in the thyroid body is increased to four times that of the normal rate and heavy pressure exerted on the pituitary body as a consequence brings into play the mechanism by which the thyroid body releases the brain from a dangerous influx of blood. Extracts of pituitary body injected into the veins of an animal produces identical effects of the heart and blood-pressure to those which are brought about by electrical or mechanical stimulation of that body. The active substance in the pituitary gland exercises upon the pneumogastrics an action analogous to that of iodothyrine.

On the Fatality of Koch's Bacillus when Mixed with Cow's Milk.

At the meeting of the Society of Biology held on April 23rd M. Sabrazès of Bordeaux showed that cow's milk very often contains the bacilli of Koch and plays a great part in the transmission of tuberculosis in animals to man. The important points to be noted are: (1) whether the bacillus of tuberculosis can form a colony in the milk under conditions of temperature and air-supply favourable to its growth; and (2) whether it preserves its virulence in this medium for a long time. Masses of a culture of the bacillus tuberculosis which had been grown in glycerinated bouillon were sown by M. Sabrazès upon the surface of a culture medium containing 250 c.c. of pure cow's milk such as is ordinarily exposed for sale two or three hours after milking. This milk was sterilised in an autoclave and after having been sown was placed in a stove with a temperature of 39° C. for two and a half months. At the end of this time no differenec at all was evident between the milk used as a culture medium and a control specimen. The bacillus tuberculosis had not grown at all, neither had it brought about any notable change in its surroundings. The question remained of ascertaining whether the bacillus was still living in the milk. 1 c.c. of the tuberculous milk was therefore inoculated under the skin of a guinea-pig which died from tuberculosis 20 days afterwards. A second guinea-pig, inoculated with a potion of caseous gland taken from the first, also died from tuberculosis. M. Sabrazès considers that these experiments authorise him to say that although the bacillus of tubercle does not develop in milk even under favourable temperatures it will remain alive in this medium for a period of at least two and a half months and in all probability for a good deal longer.

May 3rd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"Il Congresso pei Sordo-Muti" (Deaf-mutes).

THIS Congress has been the event of the week. Held in Milan and attended by delegates from all parts of Italy, including a large representation of physicians and surgeons, it attests the progress of which even a backward nationality is capable when philanthropy goes hand in hand with science and the healing art. Hitherto the fate of the deaf-mute, in continental Europe especially, has been a hard one. In antiquity he was put on the same level as the idiot simply because he lacked expression for the intelligence which was undoubtedly in him. S. Augustine stands alone among the Christian fathers in venturing to surmise that the deaf-mute can think and reason. But the man who first created a future for this "strangely-visited people" was Gerolamo Cardano, who boldly took up and defended the position that the reasoning faculty exists in the deaf-mute and that the difficulty he has to encounter is the finding of a channel other than that of sound through which the said faculty can have free course. To-day Italy can claim a foremost place among the countries which have succeeded in rehabilitating the victims of this too common affliction; she has, in fact, no fewer than forty-seven institutions, all of them able to afford living proof of the success with which the deaf-mute may be brought into touch and intercourse with his more favoured fellows—may indeed be converted into a bread-winner and into a useful, sometimes valuable, member of society. Statistics putting those results in evidence were adduced by the first of the experts in deaf-mute education to address the meeting—Professor Antonio Cipollini—and his discourse was followed by others full of interest, sometimes dramatic, sometimes touching in their tenour.

The Congress was noteworthy for the fusion of classes, creeds, and political parties represented at it, and for the enlightened unanimity—obtained after free and searching discussion—with which its practical resolutions were formulated and carried. To begin with, the hearts of all were touched by the object lessons in moral and intellectual reclamation submitted to them—reclamation in nearly every instance successful and secured after efforts on the teacher's part at once ingenious, kindly, and indefatigable. From the infant barely equal to emit a vowel-sound the ascent was very gradual, the next step being ability to pronounce a syllable, thereafter to articulate a word, then again a sentence, and so on till the series of illustrations culminated in the youth who, born deaf and dumb, was heard to express clearly and intelligibly his own thoughts and sentiments in a vote of thanks to the "Congressisti" for the humane impulse that had brought them together. In the discussions arising out of the agenda paper the Congress had the gratification of hearing the "sordo-muto redento" (the reclaimed deaf-mute) taking part opportunely and effectively; and this phenomenon—a real physiologico-educational triumph—seemed to put heart into the programme and to invest its details with an interest born of

hope and the assured prospect of final success. In harmony with this feeling attention was powerfully drawn and held by the *avvocato* Signor Natale Zucchi's report, "Sulla Condizione Giuridica del Sordo-Muto"—on his right, that is, to be treated like his normally-developed fellow citizens, having entire and perfect responsibility for his own acts. Tracing the legislative history of this "vexata quæstio" Signor Zucchi defined the present position of the deaf-mute as of one "*à priori inabilitato*" (disqualified). To acquire a "personalità civile" he must, according to Signor Zucchi, demand it at the risk of colliding with persons interested in leaving him in his condition of inferiority. Hence he finds himself in an abnormal situation—the law allowing him to marry, yet so treating him that "if the proscription of inability has not been removed" he cannot legitimise his own children, he cannot dispose of his possessions or give effect to his own wishes since he cannot dictate his last will and testament. Moreover, he cannot exercise political rights; nay, further, his inferiority in respect of "assistance publique" excludes him from the category of "cronici o gli inabili al lavoro" (chronic invalids and persons unfit for work). For the deaf-mute, added Signor Zucchi, instruction is not obligatory, although this would be peculiarly necessary for him since it cannot be given in the bosom of his family. Twenty years, concluded Signor Zucchi, have passed since the juridical and social reclamation of the deaf-mute and the "obbligatorietà dell' istruzione" (obligation to teach him) was first brought before the Italian legislature; but up till now nothing has been done for him in that quarter. The interesting discussion which ensued and flowed over into the following day led up to a unanimous resolution of which I give the text: "The Congress in behalf of Deaf-Mutes convened at Milan, considering in plenary assembly the report of the *avvocato*, Signor Natale Zucchi, on the juridical condition of deaf-mutes, accepts his proposals and expresses the wish that the Italian Legislature, in reparation for the neglect and abandonment in which it has left deaf-mutes before the law of social order and particularly before the law of obligatory instruction, should make urgent provision for the removal, in the domain of public and private right, of those restrictions and disqualifications which no longer apply to deaf-mutes who have learned *vivâ voce* to speak and who have been declared in that respect competent by the Commissione di Proscioglimento (Committee of Liberation) specially appointed." With this resolution the Congress rose, its members including Catholic priests and evangelical Protestants, freethinkers and agnostics, Conservatives, Radicals, and socialists—every shade, in fact, of creed and party—congratulating each other on good work harmoniously done, while all of them were touched (some even to tears) by the "sordo-muti redenti," drawn up 100 strong at the exit from the hall and going through a series of admirably executed evolutions, which ended with round after round of "evvivas" from lips congenitally sealed.

April 30th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The New Professor of Medicine.

THE Turkish Government lately asked for a professor of medicine from Germany. The German Emperor has now granted the necessary authorisation to Dr. Rider, professor at the Medical Faculty of Bonn, to fill a similar post at the Imperial Medical School of the Turkish capital. The newly appointed professor is to receive 30,000 francs a year. He is also to have an assistant, likewise a German, who is to receive a salary of 15,000 francs a year. Besides teaching in the school Dr. Rider is also charged to reorganise the medical school. He and his assistant will further have the duty of inspecting the military hospitals of this town.

The Plague.

The official bulletin issued by the Sanitary Administration here states that 46 cases of plague, of which 29 proved fatal, had occurred at Jiddah from March 22nd to April 11th. The Porte has already ordered precautionary measures and has despatched a medical commission to the plague-stricken districts of the Empire. News has reached this place of the arrival of the commission at Alexandria, where Dr. Bitter, Director of the Hygiene Institute of Cairo, has joined the Ottoman Commission. They are to make investigations concerning the bubonic plague.

April 15th.

BANQUET TO THE MEDICAL PROFESSION.

THE LORD MAYOR OF LONDON, Colonel H. D. Davies, M.P., gave a dinner to the medical profession on Wednesday evening last at the Mansion House. Invitations were issued "to meet the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, and other members of the medical profession," and as this was the first occasion upon which the hospitality of the Mansion House had been extended to the medical profession as such, a very large and distinguished company of guests assembled.

The following noblemen and gentlemen accepted the Lord Mayor's invitation:—Sir Samuel Wilks, F.R.S. (President of the Royal College of Physicians of London), Sir William MacCormac (President of the Royal College of Surgeons of England), the Marquis of Lansdowne, K.G. (Secretary of State for War), Lord Russell of Killowen, G.C.M.G. (Lord Chief Justice of England), Lord Sband, Sir William Turner, F.R.S. (President of the General Medical Council), Lord Lister (President of the Royal Society), the Right Hon. J. G. Talbot, M.P., Alderman Sir Whittaker Ellis, Bart., Professor Chiene (President of the Royal College of Surgeons of Edinburgh), Professor Clifford Allbutt, F.R.S., Sir George Duffey (President of the Royal College of Physicians of Ireland), Mr. T. McKinnon Wood (Chairman of the London County Council), Professor Burdon Sanderson, F.R.S., Dr. John Ogle, Alderman Sir H. E. Knight, Professor Sir T. Grainger Stewart, Sir Thomas Smith, Bart., Professor Sir George Stokes, Bart., F.R.S., Sir E. Maunde Thompson, K.C.B., Sir H. F. Norbury, K.C.B. (Director-General of the Medical Department of the Navy), the Master of the Society of Apothecaries (Dr. Griffith), Sir Alfred Garrod, F.R.S., Mr. Jonathan Hutchinson, F.R.S., Sir Charles Hall, K.C.M.G., Q.C., M.P. (Recorder of London), Sir Charles Cameron, Bart., M.P., Dr. Hermann Weber, Alderman Sir David Evans, K.C.M.G., Dr. Little (President of the Royal Academy of Medicine of Ireland), Mr. Thomas Bryant, Professor Michael Foster, F.R.S., Professor T. R. Fraser, F.R.S., Dr. Hill (Vice-Chancellor of the University of Cambridge), Sir Walter Foster, M.P., Sir Arthur Wells, Bart., Sir Dyce Duckworth, Sir J. R. Andrew Clark, Bart., Dr. H. C. Cameron (President of the Faculty of Physicians and Surgeons of Glasgow), the Rev. Sir Borrodaile Savory, Bart., Sir Benjamin Brodie, Bart., Mr. Christopher Heath, Surg.-General Jameson, C.B. (Director-General of the Army Medical Department), Surg.-Major-General Hooper, C.S.I. (President of India Medical Board), Professor Jebb, M.P., Mr. W. Christie, C.B., F.R.S. (Astronomer Royal), Sir W. Roberts, F.R.S., Sir W. Priestley, M.P., Sir Cameron Gull, Bart., M.P., Sir Arthur Watson, Bart., Q.C., Professor Annandale, Sir James Dick, K.C.B., Sir R. Douglas Powell, Bart., Sir Philip Smyly, Mr. Buckle, Sir Norman Lockyer, K.C.B., F.R.S., Dr. Farquharson, M.P., Sir William Broadbent, Bart., F.R.S., Sir Henry Thompson, Sir Francis Cruise, Dr. Pavy, F.R.S., Sir Paget Bowman, Bart., Dr. Playfair, Dr. Stevenson, Mr. H. Power, Dr. J. E. Pollock, Dr. Whipham, Mr. Timothy Holmes, Sir William Porter, Bart., Sir Halliday Macartney, K.C.M.G., Mr. Malcolm Morris, Sir J. Crichton Browne, F.R.S., Professor Dewar, F.R.S., Mr. Under-Sheriff Gardiner, Dr. Crosby, C.C., Colonel Eustace Burnaby, Mr. G. J. W. Winzar, Mr. H. Gordon Davies, Mr. W. J. Soulsby, C.B., Sir Simeon Stuart, Bart., Dr. Sedgwick Saunders (Medical Officer of Health for the City), Mr. Under-Sheriff Halse, Mr. Alderman and Sheriff Green, Sir Henry Burdett, K.C.B., Sir G. S. Robertson, K.C.S.I., Professor Roberts-Austen, C.B., F.R.S., Deputy Inspector Woods, M.V.O., the Mayor of Hastings, Sir Felix Semon, Sir Thornley Stoker, Surgeon-Colonel Stevenson, Deputy Surgeon-General Tobin (Canadian Militia), Mr. W. A. Meredith, Dr. Macnaughten Jones, Dr. Cory, Mr. John Bowes, Professor Vivian Lewes, Mr. Noble Smith, Mr. C. N. Barton, Mr. Ryall, Dr. Foster MacGeagh, Dr. Ernest Clarke, Dr. Blandford, Dr. Symes Thompson, Professor Philipson, Dr. Long Fox, Dr. Glynn, Mr. O. E. Bulwer-Marsh, Dr. Claye Shaw, Dr. F. Warner, Dr. Dawson Williams, Mr. Shirley Murphy, Dr. J. G. Glover, Mr. Howard Marsh, Mr. W. H. Bennett, Mr. Whitehead, Mr. Nicholson, Dr. Donald MacAlister, Professor Leech,

Dr. Theodore Williams, Dr. Bowles, Dr. Seaton, Dr. Jabez Thomas, Dr. Gilbart Smith, Dr. S. West, Mr. Butlin, Mr. Clinton Dent, Dr. W. Collingridge, Mr. C. Brock, Dr. Sheen, Dr. Orwin, Dr. G. D. Wilson, Dr. Cayley, Mr. Morgan, Dr. F. Taylor, Dr. Saundby, Mr. G. Brown, Dr. Savage, Dr. Oliver, Mr. Boyd, Mr. Critchett, Mr. Alfred Cooper, Mr. Burton (Warden Apothecaries' Society), Mr. Parker, Mr. Wheelhouse, Mr. Jessop, Dr. Dakin, Sir Peter Eade, Mr. Willett, Dr. Hensley, Dr. Dreschfeld, Dr. M. Skerritt, Dr. S. Mackenzie, Dr. Potter, Dr. Manson, Dr. Newsholme, Mr. Walsham, Mr. Pepper, Dr. Woodhead, Mr. T. Wakley, jun., Mr. Tomes, F.R.S., Sir R. M. Craven, Sir J. Sawyer, Mr. H. D. Erskine, Dr. Pye-Smith, F.R.S., Mr. J. Couper, Mr. Macnamara, Dr. W. J. Collins, L.C.C., Mr. Langdon, Mr. Davies-Colley, Dr. Henry Maudsley, Dr. Acland, Dr. Eddison, Dr. de H. Hall, Professor Ball, Mr. Clutton, Captain Sir A. Jephson, R.N., Mr. A. H. A. Morton, M.P., Dr. Clark, M.P., Mr. G. Lawson, Professor Stewart, F.R.S., Dr. Southey, Mr. W. Cheyne, F.R.S., Dr. Sansom, Dr. Barrs, Dr. Sharkey, Mr. C. Lucas, Professor E. H. Bennett, Mr. W. Anderson, Professor Mitchell Banks, Mr. Pitts, Sir W. Dalby, Dr. Ringer, F.R.S., Dr. E. Liveing, Mr. Teale, F.R.S., Mr. Howse, Dr. C. Bastian, F.R.S., Mr. E. Owen, Mr. Paget, Mr. H. Morris, Dr. Coupland, Dr. Black, Professor Redfern, Mr. Bond, Mr. Storr, Mr. Cotman, Mr. Gordon Brown, Sir W. Gowers, F.R.S., Dr. Church, Surgeon-Colonel Notter, Dr. Gee, Mr. Rose, Dr. Payne, Rev. Canon Edmonds, Mr. Croft, Professor Cuming, Dr. F. Roberts, Mr. Bloxam, Dr. Isambard Owen, Mr. Makins, Mr. Mayo Robson, Dr. Crawford Hayes, the Mayor of Ruthin (Dr. J. M. Hughes), Mr. Herbert Page, Dr. Burney Yeo, Dr. Lauder Brunton, F.R.S., Professor Halliburton, F.R.S., Dr. B. J. Anderson, C.I.E., Mr. Golding Bird, Dr. Luff, Mr. Barrow, Mr. Swanzy, Mr. Stonham, Mr. Felix Skene, Dr. Duffin, Mr. Barker, Dr. Ferrier, F.R.S., Dr. Norman Moore, Dr. Vintras, Dr. H. Green, Mr. Godlee, Dr. Poore, Professor McCall Anderson, Mr. Cadge, Dr. Champneys, Dr. Abercrombie, Dr. Tirard, Dr. Eustace Smith, Mr. McCarthy, Mr. Pollard, Mr. Spencer, Mr. Bennett May, Mr. Fairbank, Dr. W. Duncan, Dr. Barlow, Dr. Cavafy, Mr. Victor Horsley, F.R.S., Dr. Ewart, Dr. Ord, Dr. Goodhart, Dr. Curnow, Dr. Mapother, Mr. Treves, Professor Macewen, F.R.S., Mr. Tweedy, Mr. Barling, Dr. Manby, Dr. W. S. A. Griffith, Mr. Knowsley Thornton, Dr. Allchin, Fleet-Surgeon Mahon, C.B., Mr. George Cowell, Dr. Lees, Dr. Galabin, Dr. Charlewood Turner, Professor Corfield, Dr. Brodie, Mr. Pick, Mr. Pearce Gould, Dr. Arnison, Mr. Pye-Smith, Mr. Vincent Jackson, Dr. Clement Godson, Dr. Lediard, the Mayor of Henley (Mr. J. Lidderdale), the Mayor of Preston (Mr. J. E. Dunn), the Mayor of Devizes, Dr. Herman, Dr. Fowler, Dr. Spencer, Dr. Hollis, Professor Greenfield, F.R.S., Mr Haward, Dr. Page, Mr. Cross, Mr. Tindall, Mr. Cripps, Mr. Welland Mackenzie, Dr. R. Barlow, Dr. S. S. Sprigge, Mr. F. G. Hallett, Mr. Wherry, Professor Thomson, Dr. Ward Cousins, Mr. Swain, Mr. Bankart, Mr. Sibert Cowell, Dr. J. W. Fry, Mr. G. Stoker, Mr. Sheriff Dewar, Professor Bradbury, the Mayor of Cheltenham (Mr. R. Rogers), the Mayor of Carnarvon (Dr. R. Parry), the Mayor of Bootle (Dr. J. McMurray). Deputy Inspector-General Stanistreet, R.N., Sir H. T. Wood (Secretary of Society of Arts), Dr. Buzzard, Mr. Reginald Harrison, Dr. Donkin, Dr. Ernest White, Dr. Rutherford, Dr. Outterson Wood, Mr. A. W. Prichard, Mr. Eddowes, Mr. O. C. Maurice.

Dinner over and grace having been said, the loving-cup was passed round, and the Lord Mayor bade his guests a hearty welcome.

The LORD MAYOR, in proposing the health of Her Majesty, said: We are all glad to welcome back our beloved Queen to her own country. We are delighted to know that she has returned in such good health; may that good health long continue. I give you "The Health of the Queen," and may God bless her.

In proposing the toast "The Prince and Princess of Wales and the other Members of the Royal Family," the LORD MAYOR said: We all know the deep interest which every member of the Royal Family takes in the medical profession and the practical sympathy which they show in looking after the hospitals of London. We know how deeply they are interested in the welfare of the people and we are always delighted to greet them in the City. I ask you to drink to the health of the Prince and Princess of Wales and the other members of the Royal Family.

Lord RUSSELL of KILLOWEN, G.C.M.G., Lord Chief Justice of England, proposed the toast of "The Navy, Army, and Reserve Forces." He said: I think there is no section of the community that does not recognise the necessity for an adequate executive force by land and by sea. Differences of opinion indeed exist as to what is an adequate force, and those differences of opinion have been the cause of endless perplexities to successive Chancellors of the Exchequer and Secretaries of State for War. I think also that every section of the community agrees in this—that while it is necessary, looking to the greatly diversified and widely extended interests of this Empire, that there should be such adequate forces, yet the consensus of opinion is that such forces shall be forces of defence, not of defiance, forces which shall guarantee the peaceful exercise of our rights and not forces conceived or directed to purposes of aggression or of conquest. One thing we may truly say at all times of our army and navy: although frequently tried under circumstances of great difficulty they have never been found wanting when called upon to discharge their duty. Recent examples of this are before us both in India and in Egypt. I say nothing of the policy of the campaigns, but we are all entitled and glad to be able to recognise in the conduct of the officers and of the men the presence of fortitude, bravery, and endurance—characteristics which have always marked our soldiers. There is in connexion with those campaigns one circumstance which cannot but be regarded as most gratifying—namely, that the same qualities which have marked our home-bred soldiers have been manifest in the native forces both in India and in Egypt. With this toast two distinguished names are coupled. In respect of the navy there is an appropriateness peculiar to this occasion in coupling with that part of the toast the name of Sir Henry Norbury, the Director-General of the Medical Department of the Navy. There is a peculiar appropriateness on this occasion because, in the first place, he is a distinguished naval officer, and because it is relevant to this occasion to observe the great benefits that the distinguished profession which you, my Lord Mayor, have honoured and which has honoured you by its presence here to-night—the great benefits, I say, and distinguished services that this body has rendered in mitigating the horrors of war; I refer not merely to the qualities which characterise the medical profession, but the fact that in proportion to their numbers they show the largest number of any of Her Majesty's subjects who have received the Victoria Cross. Coupled with the part of the toast which relates to the army and reserve forces I have to mention the name of Lord Lansdowne, whose remarkable services to the Crown, first as Governor-General of Canada and afterwards as Governor-General of India, command the gratitude of the nation; and I am sure I am voicing your opinion and general public opinion when I say that the country has every confidence in the wisdom, caution, and administrative ability of the Secretary of State for War.

In responding Sir HENRY NORBURY said: It gives me very great pleasure to respond to this toast in the name of the officers and men of the Royal Navy, and I thank you most sincerely for the kind way in which you have received the toast. The navy is a service which, though always popular, is unable to attract the attention of the public because from its very nature it is unable to make the popular displays that the sister service can so readily do—except on occasions such as the Diamond Jubilee when people invaded Portsmouth to witness the naval review. At no time in our history has the navy been in a more efficient condition than it is now, not even in the time of that celebrated naval hero of whom as Englishmen we are all so proud, Nelson. I could not wish a more honourable or, I might say, pleasurable career for any man than one in the service of the navy. In the name of that service I thank you, my Lord Mayor, for the honour which you have bestowed upon us in asking us to accept your hospitality at the Mansion House this evening.

Responding on behalf of the Army Lord LANSDOWNE said: I see immediately before me the Director-General of the Army Medical Department and I cannot help feeling that on this occasion the duty which has been cast upon me might perhaps have been more appropriately placed in his hands. I have to thank you for the kind manner in which this toast has been received, and I am sure that the generous words of the Lord Chief Justice will be valued by all who are serving Her Majesty in the army and by all the friends of that service. It is said sometimes that in this country we are apt

to disparage our own institutions, and this applies sometimes perhaps when we are talking about the army; but it will scarcely be disputed that in the two campaigns which the Lord Chief Justice referred to British soldiers have shown that they are not unworthy to uphold the great traditions which belong to the British army. I think we must all of us have read with pride the farewell words of Sir William Lockhart, published in to-day's papers, when taking leave of the Tirah field forces. Both these campaigns had in them this feature—that British soldiers were serving under the same flag with men of races other than their own. The admirable performances of these native troops, their discipline and soldier-like qualities, may be without exaggeration to a great extent traced to the training which they have received from British officers. While we have in the British army leaders of men like Sir William Lockhart and Sir Herbert Kitchener—while such leaders are training up the younger race of officers to follow them, we need not despair of the British army. These campaigns are useful because they not only call attention to our strong points but also to our weak ones, and I am told that the Egyptian campaign has this one weak point which I ought not to ignore. I refer to the matter of the army boot. I am not going to admit that the army boot is a bad boot. I believe that it is a thoroughly serviceable article, but it appears that it does not resist the insidious effect of desert sands. In saying a word about the boots I must say a word about the wearers. General Gatacre in the march of his brigade to the front covered a distance of no less than 142 miles in five days, an average of over 28 miles a day. That as a feat of endurance, I think, is something for a British soldier to be proud of. In the future I hope we shall be able to discover a boot which even General Gatacre and the Egyptian desert will not be able to wear out. The army owes a very great debt to the profession you are honouring this evening. In peace the profession teaches us how to combat the diseases and the climatic influences to which in our ever-increasing Empire the British troops are exposed. When peace is broken medical men teach us how to mitigate the barbarity of warfare. Engines of destruction are now used more terrible in their effects and more deadly wounds can be inflicted in seconds now than in hours in times past. It is the medical profession which teaches us how to correct the effects of our own ruthlessness, and if we had to choose between the credit to the man who, say, invented a new Dum-Dum bullet and the credit to him who showed us how to extract it and save the shattered limb I do not think we should be long in deciding. I am using no idle phrase when I say that the army is proud that it contains a number of officers who belong to the medical profession, but who are none the less soldiers in the fullest sense of the word, wearing the Queen's uniform, holding her commission, ready to take their share—aye, and more than their share of the risks and hardships of warfare. We are determined that there shall be no failure either in theory or in practice to treat them with the respect to which they are entitled. It has been to me a source of very great regret that there have been of late years signs of a feeling of estrangement between the army and the medical profession which has been outwardly expressed by the abstention of candidates for commissions. In such cases it is, perhaps, not unfair to assume that there may have been faults on both sides. We on our side are determined that you shall have no cause to complain of us. In several minor matters to which I will not refer upon an occasion like this we have already shown our determination to meet you in a reasonable spirit. We are now about to deal with the large question in which I know the profession takes a deep interest—the question of the status and rank of the medical officers in the army. I have heard it said, Is not the title of "Doctor" or "Surgeon" a title by itself which anyone might be proud to wear? But in the army rank means a great deal. It is the outward and visible sign of that authority and consideration with which the place of a man is clearly defined and designated, and it is necessary in the military profession that a man should have a proper military stamp. Let me say in half-a-dozen words how it is that we intend to deal with this question. We have made in former years various attempts to solve this question of titles by means of ingenious expedients, but the results have not been very satisfactory. In some cases we have, I think, invented titles which for cumbrousness and cacophony would be hard to beat. We now propose that the Army Medical Staff and the Army Medical Corps should be formed into one corps. The titles used shall be the simple, short, intelligible titles to which we are all accustomed. We propose to give the corps military titles up to and inclusive of the rank of Colonel. I have received some forcible hints that our scheme will be unsuccessful unless we proceed to the rank of General. But we in future intend to limit the rank of General to a very restricted number of officers, all of whom will be required to hold certain specific appointments carrying with them general command in the army and they will be required to command troops, if necessary, in the field. I feel quite sure that it is not intended that any departmental officers shall be given the rank of General under this scheme. Her Majesty the Queen, whose goodwill towards the profession is well known, has signified her pleasure that the new corps shall be called the Royal Army Medical Corps. I cannot help hoping, my Lord Mayor, that your distinguished guests and their friends will give us credit for having made these proposals in a fair and reasonable spirit and that we shall find that they on their side will spare no pains to induce the best and most prominent recruits in their profession to join the Royal Medical Corps. I am sure that we must all desire to see improvement in the British army and that there may be found serving with it members of the medical profession who, by their ability and standing in their profession, are in every way worthy of those whom you, my Lord Mayor, are honouring this evening.

The LORD MAYOR: It now becomes my pleasing duty to propose the toast of "The Medical Profession." I feel a peculiar pleasure in proposing that toast because I think that this is the first occasion on which it has been proposed within these walls. I have heard various complaints from members of the medical profession serving in the army, but I little thought that this banquet would have been the medium of bringing forth such a satisfactory statement as that just made by the Noble Marquis the Secretary of State for War. We must admit that that statement is most satisfactory, and not only to those connected with the army. I am delighted to welcome you here to-night in the name of the citizens of London. I welcome you for more reasons than one. In the first place I welcome you because for many generations past you have been intimately associated with the City of London. I believe that the Royal College of Physicians commenced in the City of London in 1518. The Royal College of Surgeons was intimately associated with one of our ancient City guilds—I refer to the Barber Surgeons Company. There is another company connected with your profession, also one of the livery companies, which has its residence in the City of London at the present time, and we members of the Corporation welcome you heartily as having some connexion with us both in times past and at the present time. But I welcome you on other grounds. I know the vast amount of good which you do to suffering humanity, and when I speak of suffering humanity I do not refer to it in the sense that you look to the comfort and health of the ordinary patient, but rather mean that you devote much of your valuable time to the amelioration of the sufferings of those poor creatures who are unable to help themselves. I see the names of those distinguished physicians and surgeons who devote their time to hospital work and know the immense amount of good they do and how instructive their work is also. They, as Lord Lansdowne has told us, train the young to take their places and we citizens are deeply grateful for the vast amount of good which is thus conferred upon poor humanity. I will not, my lords and gentlemen, occupy your time by making a longer speech. I am delighted to welcome you here to-night and to meet my two distinguished guests, the President of the Royal College of Physicians of London and the President of the Royal College of Surgeons of England. Every man present to-night is a distinguished guest. We welcome you all; we trust that we may see you again—not medically, but hospitably. I welcome you as Lord Mayor of the chief city in the world, the healthiest city in the world, not rendered altogether healthy by the assistance which you give us, but by the joint assistance of the Corporation of London and the medical profession. I give you the toast which I ask you to drink standing—"The Medical Profession," coupled with the names of my distinguished guests, Sir Samuel Wilks and Sir William Mac Cormac.

Sir SAMUEL WILKS (President of the Royal College of Physicians of London) said: I thank you very much for your very kind words about myself and my profession,

but if we had only heard the speech of the Marquis of Lansdowne we should have been satisfied because it may afford a good solution of a question which has so long been before us. But the meeting here to-night is unique, and, therefore, in spite of what has been said by my neighbour, I consider that what I may have to say is really the toast of the evening. I cannot pretend to interpret the minds or opinions of the most illustrious and most learned men of my profession who are gathered here to-night from all parts of Great Britain, but I am quite sure that there is one sentiment that animates them all and that is a feeling of gratitude to you, my Lord Mayor, for having given us this token of your recognition. As you have said, this is the first time that a banquet has been given to the medical profession at the Mansion House. There may have been cases, such as congresses, when many distinguished foreigners have been present in London and when the *élite* of the profession have been joined with them, but in ordinary times of quiet without any exciting cause, to use a medical expression, you, my lord, have cast a kindly eye over us and cast your ægis over the whole profession. You have taken a new departure. This may have come about for many reasons. Nowadays there is a closer connexion between the corporations and the sanitary authorities. Medical men no longer give their whole time to the individual patient in a private capacity, but have regard for the masses and, with the motto that prevention is better than cure, the doctors have become the guardians of the public health. A good example of this was seen the other day during that frightful epidemic of typhoid fever. But although we approach one another more closely now, for a long time there has been a separation. It was not always so. As you have said, my lord, there was a time when the two Colleges were City companies and at that time they were under the jurisdiction of the City and of the Lord Mayor; the same, I believe, applied to the other cities of Dublin and Edinburgh. The Physicians and Surgeons existed nearly 500 years ago as distinct companies in the time of Henry VI. and at that time they were closely connected with the Corporation of London and I believe they had to get their Licence from the Lord Mayor. The Lord Mayor of that time had a supervision over the instruments of the Surgeons and also over another class of persons connected with the Surgeons whose names I will not mention, although the Lord Mayor has done so. One reads in books how often they had to fine these Members of the College in sums of 6*s.* 8*d.* and 3*s.* 4*d.* for shaving polls and trimming beards on a Sunday. Subsequently came the Charter of the College of Physicians which we obey at the present time, and twenty years after that came the Charter given by Henry VIII. to the Surgeons. The celebrated picture by Holbein hangs in a hall close by. In that picture the King is presenting the Charter to the Surgeons. On his right hand are the physicians, Dr. Chambers and Sir William Butts. Previously to this time I believe the two Colleges held an examination similar to the conjoint scheme at the present day. The men who founded the two Colleges were men of the highest worth and integrity. One of these great men was Caldwell, who was instrumental in founding the Lumleian Lectures, and he laid down a code of ethics which could not be surpassed. Then there was Vycary, who held that a surgeon should be as secret as any confessor and also said that it is meet that chirurgeons should love one another. After this time they gradually ceased their association with the City and although they remained in the neighbourhood some time they gradually went westward. The Surgeons lingered towards the City a long time, as it had a great interest in, and was very much associated with, another institution in the City—I mean Newgate. It is pleasing to see that a new *rapprochement* is gradually taking place amongst us not only for the reason I have given. But the City of London and all the Guilds belonging to us have made an approach of late years to all the seats of learning. Benevolence and hospitality have always been characteristic of the City of London and the Guilds. Now they are adding to these qualities by devoting their attention to matters of learning. I need say nothing about Guildhall, where there is a splendid library, museum, annual picture exhibition, &c.; but, beside all that, they have done much for science and learning, and in our own profession we have especially to thank them for the help they have given to the advancement of scientific medicine. The City have given great assistance in the study of bacteriology. The future citizens of London will be proud of the part taken by the City of London and its Guilds in the scientific work of the closing years of the nineteenth century. As a crowning act you have called us here to-night in person and in the name of those here assembled I thank you most heartily.

Sir WILLIAM MACCORMAC (President of the Royal College of Surgeons of England) said: It is now my duty, however imperfectly I may be able to discharge it, to convey to your lordship on behalf of my surgical brethren and myself our most cordial appreciation of the honour you have done us and how gladly we accept the compliment you have been good enough to pay our profession in thus inviting us to this banquet. We are very proud of our profession and of the great strides it has made in recent years. I think we have just reason to be proud of it, for never before has our profession occupied so large a place in the State, never previously has it been able to accompany so large a measure of good for the community. And this, I think, is fully recognised, and by no one, I am sure all present will agree, has it been more gracefully or handsomely recognised than on this memorable occasion by the Lord Mayor of London. Speaking for surgery it is difficult for anyone not in immediate contact with the work to realise the immense progress which has taken place in surgery in the last few decades. It is astounding—to me personally it is a source of never-ceasing wonder and admiration—that older surgeons used to regard an operation as a stigma on surgery—a confession of failure to cure by other and less radical methods. From time to time we were assured by great masters of our craft that surgery had reached such a pitch of perfection that no further improvement was possible, but events have constantly falsified this prediction, and I believe there is no finality in surgery any more than in other branches of science. And assuredly operations are no longer a stigma. Large classes of surgical cases are now capable of not only relief but cure by operations which never before came within the range of practical surgery. Many with otherwise fatal ailments may be absolutely restored to health; many with crippling conditions of different kinds can be restored to full activity. Two great factors have enormously contributed to this end. One the blessed discovery of anæsthesia whereby the ghastly terrors of an operation are dispelled and many operations otherwise impossible can be performed. The other and not less beneficent discovery is the antiseptic treatment of wounds, which has practically removed the risks and sufferings formerly attendant on operations. The author of this glorious gift to humanity is amongst us to-night. Surgeons and surgery throughout the civilised world owe to Lister a debt very inadequately acknowledged by our affectionate admiration of the man whose patient insistence, both by observation and experiment, clear perception, and bold scientific induction have realised for him a name and fame that shall never perish. My Lord Mayor, the presence amongst us of the noble Marquis the Secretary of State for War induces me to say a word in regard to the Medical Department of our army. No confidential communication on this subject has been made by anyone to me and therefore I betray no confidence when I say that I am sure the members of the profession outside the army and those within its ranks are grateful for what the noble Marquis has done for those who thus serve their country, and my lord, have served it well, in the Medical Department of the army. Lord Lansdowne is responsible for the affairs of the whole army, yet I tell no secret when I say that the affairs of its medical department must of late have occupied a large share of his attention. He has dealt with these matters in a most sympathetic, generous, and I would add most wise and statesmanlike spirit. He has granted reforms, revolutionary changes almost, in the department, in spite of very strenuous and persistent opposition on the part of some who we may suppose do not belong to it. He has agreed to grant the two great wishes which have been pressed upon him—army rank and the formation of an army medical corps. A comparatively small question about the titles of surgeon-generals has also, I think, been solved; and all this should, I consider, give great and general satisfaction. Very fitly it is but right and fair to judge a man by what he succeeds in accomplishing, and Lord Lansdowne has accomplished for the Army Medical Department what they have very earnestly desired, and has done very much it may be hoped to restore

its former prestige, and it will be restored if all concerned work loyally to obtain it. A very celebrated Scotch surgeon, John Bell, writing at the beginning of this century, when all Europe was at war and the qualities of a military surgeon could be more justly appreciated than in time of prolonged peace, says that he has been accustomed to regard the public service of the State as a great school of practical science affording opportunities which more than compensate for the hardships and dangers of that way of life. The situation of a military surgeon he considers more important than that of any other. While he is yet a young man he has the safety of thousands committed to him in unhealthy climates and in the midst of dangers. He has to act alone and unassisted in cases where prompt decision and perfect knowledge are required and duties difficult in all times are often to be performed amidst the hurry, confusion, and cries of battle. He forms the highest estimate of the qualities, both personal and professional, that a military surgeon should possess, as it is to him that his fellow soldiers look in moments of distress. It is remarkable how many distinguished men in our profession have served their country in the wars. Many of the foremost men in France, in Germany, and in England have done so. There are some in this room now who have thus greatly distinguished themselves, and it has always been so. In the history of the City of London one might recall the names of many. The Father of English Surgery, Richard Wiseman, surgeon to King Charles I. and Serjeant-Surgeon to King Charles II., had an eventful career during the Civil War. He was taken prisoner after the Battle of Worcester and again while practising his profession as a surgeon in the Old Bailey at the sign of the King's Head he was taken to the Tower and nearly lost his own head during the Commonwealth. About the same time John Woodhall, a surgeon at St. Bartholomew's Hospital, Surgeon-General to the East India Company, also a celebrated surgeon in this old City of London, who had served both in the army and in the navy, dedicates his curious work on surgery and the duties of the surgeon's mate to the "King's most excellent Majestie" Charles I. and also to the Right Hon. Sir Morris Abbot, Lord Mayior. "Your poor subject," he says, "has presumed to prostrate at the feet of your sacred majestie these his unworthy works in surgerie which contain in them the methods and scope of the military surgeon's chest with the 'viaticum' or pathway to the chest with all the necessary appurtenances which are useful in surgery for the warres either by sea or land." Woodhall speaks of himself as an ancient master of the mysterie of Barber Surgeons, an old City company which became transformed in lapse of time, let us hope improved, into the Royal College of Surgeons, while the Apothecaries, who did so much in their time for the profession of this country, and still do so, continue as one of the City companies. So there are points of contact between our profession and the City of London. And now, my lord, I would add a word as to one aspect of the great Corporation over which you so worthily preside, and that is its never-failing benevolence and charity. It is shown in the part, more immediately concerning us, that you and the Corporation take in the government of the great charities of the City of London. In your corporate capacity you are Governors of the Royal Foundations of St. Bartholomew, of St. Thomas, and of Bethlem, and also of Guy's Hospital. These institutions amongst many others have had the closest connexion with the City of London and owe much to its influence both in the past and in the present. To you, then, my Lord Mayor, as grand almoner of the never-failing and unstinting charity of this great city, of which many amongst us are administrators—as Chief Magistrate of this the greatest city of our empire and of the world, I return, on my own behalf and on that of the surgeons of the United Kingdom, our most sincere and appreciative acknowledgments for the honour you have this day done to our profession.

Sir WILLIAM TURNER (President of the General Medical Council) said: My duty is a very responsible one—namely, to propose the toast of "The Houses of Lords and Commons." I have been present at festive gatherings where the speaker whose duty it was to propose the House of Lords proposed it in an apologetic manner. I am sure, my Lord Mayor, that in this city and in this hall such an apologetic manner would be entirely out of place. The City of London has had ample opportunities of knowing what the House of Lords is—how eminent it is, how honourable is its antiquity, how illustrous are its traditions and how representative it is of such of the great historic families of the United Kingdom as still remain with us. But the House of Lords would not have retained the esteem of the citizens of this country if it had rested solely upon its great families. It is constantly receiving new acquisitions, acquisitions from without. Men are brought into it who have rendered great services to their native country, either in the public services or in the professions. Some of the professions have been in this respect more highly favoured than others. The law has furnished many additions to the House of Lords (we have here this evening one of the most illustrious representatives of the profession of the law) but it has been an extremely difficult matter for the profession of medicine to obtain an entry into the House of Lords. We have heard that it has been a very difficult matter for the medical profession as a profession to obtain an entry into this Mansion House, and we thank you, my Lord Mayor, for having accorded us this entry this evening. In the selection of Lord Lister for the Upper Chamber we all felt that our profession was honoured and that at last justice had been done to it, and from this point of view—that Joseph Lister represented not only the practitioner but the science of his profession; he represents the great fundamental principles of our profession and it gives me the greatest pleasure of associating with this toast the name of Lord Lister. But I haveto ask you also to drink the health of the House of Commons, a place not so difficult of access as the House of Lords for the medical profession. There are many members of the House of Commons present to-night and we all feel grateful to them for the work they do in connexion with matters pertaining to the profession, matters chiefly of public health. Questions are continually arising in which the special knowledge of the medical practitioner does great service in matters of legislation, such, for instance, as the subjects of vaccination and public health. I have been asked to couple with this toast the name of one who has done excellent service for the public from a professional point of view, that of Sir Charles Cameron, and I ask you to drink to the House of Lords coupled with the name of Lord Lister and to the House of Commons coupled with the name of Sir Charles Cameron.

Lord LISTER said: I feel that it is exceedingly inappropriate that this toast should be responded to by so recent and humble a member of the House of Lords as myself; yet as a member of the profession which has been so uniquely honoured by you, my Lord Mayor, this evening, I rejoice in the privilege of returning to you our most cordial thanks; and if I were to speak the sentiments of my heart they would be that whatever the shortcomings of ourselves individually may be our profession is that of the very highest nobility. At this late hour of the evening I can but express my unbounded satisfaction to the Marquis of Lansdowne for the statement which he has made in regard to the Army Medical Staff. He has cleared the way and in the future the army will be served by the best elements of our profession.

Sir CHARLES CAMERON said: Lord Lister is one of the greatest members in the House of Lords although he has alluded to himself as "humble." As for the House of Commons the policy laid down by Beaconsfield, *Sanitas, sanitatum, omnia sanitas*, has become more and more engrafted upon the policy of the people's house. In the name of the House of Commons I thank you heartily for the manner in which Sir William Turner has proposed the toast and the way in which it has been received by you.

Sir GEORGE DUFFEY proposed "The Health of the Right Hon. the Lord Mayor."

In his reply the LORD MAYOR said: It is indeed gratifying to me to find that my name should receive such a cordial reception as that which you have given. I have felt in entering upon my year of office that I am a novel man. I wished to inaugurate novelties and this is one of them. I hope I may have many more in store. I have inaugurated this dinner to-night in the hope but not with the assurance that my successors will follow on with it. I see no reason, looking to the facts that almost every other profession has been recognised in this hall, why the medical profession should not be included with them. I have done it knowing what an honourable profession it is and knowing the amount of good work which it does. At this late hour of the evening I will not take up any more of your time; but I welcome you most heartily on behalf of the citizens of London and thank you most sincerely for your most kind reception.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

THE twenty-seventh Congress of the German Surgical Association was opened as usual in Langenbeck House, Berlin, on the Wednesday after Easter. That day happened this year to fall on April 13th and the meetings were continued till April 16th. The chair was taken by Professor Trendelenburg of Leipsic, who in his inaugural address informed the meeting that the family of the late Professor von Langenbeck, the founder and honorary president of the association, had bestowed on the association an endowment of 50,000 marks (£2500) in order to enable German surgeons, civil and military, to study military surgery in countries which might be the theatre of wars in which Germany was not engaged. In time of general peace prizes payable out of the annual proceeds of the endowment would be awarded to the authors of the best theoretical works on military surgery. The first subject considered by the congress was

The Improvement of the Aseptic Method in Surgery.

Professor MIKULICZ (Breslau) said that in order to avoid infection of operation wounds by the hands of the surgeons and the assistants he recommended the wearing of gloves of white thread which must be sterilised before use. To protect the wounds from germs coming from the mouth he and his assistants cover their mouths with gauze bandages. He stated that this precaution was necessary owing to the fact that in 33 per cent. of 48 cases bacteriological examination showed that staphylococcus aureus was present in the mouths of healthy persons. Speaking during the course of an operation ought to be avoided as much as possible. To ensure the sterilisation of dressing materials he has devised some methods which are apparently very useful. The most simple and efficacious way of control is to put inside the dressing-box a piece of paper on which the word "sterilised" is printed, and the paper before being sterilised is made blue by a solution of iodine, so that the printing disappears. When a temperature sufficient for complete sterilisation is produced within the apparatus the iodine goes off and the word "sterilised" reappears on the paper.

Professor LANDERER (Stuttgart) recommended that bandages treated with a 1 per cent. solution of formalin should be applied to the skin from twelve to twenty-four hours before an operation.

Dr. DÖDERLEIN (Tübingen) said that he had found that gloves such as those worn by Professor Mikulicz became filled with bacteria during operations. Gloves of caoutchouc were less infected. He did not think that gloves were of any use and he advised that surgeons should wash their hands frequently during their operations.

Dr. FRIEDRICH (Leipsic) stated that the views of the late Dr. Schimmelbusch, although correct from a theoretical point of view, were not applicable in practice. Dr. Schimmelbusch found that the bacteria present in a traumatic lesion very quickly penetrated into the blood-stream, so that the local application of an antiseptic was according to him quite useless, but it must be remembered that he made his experiments with cultures of anthrax and not with the comparatively few and innocuous germs ordinarily present in wounds. Dr. Friedrich inserted small portions of earth in the muscles of rabbits and found that the bacilli of malignant œdema did not penetrate from the wound into the circulation in less than six hours, from which it is evident that infection may be avoided if an antiseptic is applied within six hours after an injury.

Local Anæsthesia.

Dr. HACKENBRUCH (Wiesbaden) recommended injections of cocaine and eucaine especially for operations on the fingers and toes.

Dr. BRAUN (Leipsic) said that the physical properties of the injected compound were very important for efficacious anæsthesia. Only fluids which have the same freezing point as the lymphatic fluid in the tissues produce anæsthesia without either irritation or paralysis; a solution consisting of cocaine and eucaine dissolved in 0·8 per cent. salt solution would be the best. To add morphia as recommended by Dr. Schleich would not be an improvement because of the production of œdema. Local anæsthesia might even be used in major operations when general anæsthesia was either too dangerous or not possible owing to the general state of the patient. In children it is, of course, not to be used. In operations on the fingers and toes circular anæsthesia as recommended by Dr. Oberst is preferable to Schleich's method.

Dr. GOTTSTEIN (Breslau) said that in the surgical clinic of that town 233 major operations had been performed under Schleich's local anæsthesia and he mentioned the interesting fact that affections of the lungs developed as frequently after local anæsthesia as after general anæsthesia produced by chloroform and ether. According to him this frequency of pulmonary affections is due, not to the anæsthetic compound, but to the pain which hinders the patient from expectorating.

Operations on the Stomach.

Professor KRÖNLEIN (Zürich) said that his assistant, Dr. Schlatter, had last year performed a total extirpation of the stomach for carcinoma and had united the œsophagus directly with the duodenum.[1] This operation, which had been very severely criticised by American surgeons, proved a complete success. The patient is now, five months after the operation, in a good state of health, has increased in weight, and is able to eat and drink like other people. Of 21 cases operated on according to Billroth's method 5 died within a fortnight after the operation. Of the 16 remaining patients 2 died from other diseases, 8 relapsed in from one to three years after the operation, and 6 are still alive, of whom 4 were operated on four years ago.

Dr. SCHUCHARDT (Stettin) said that three varieties of carcinoma of the stomach must be distinguished, the infiltrating, the nodular, and the cauliflower-like forms. The latter is moveable and is comparatively late in extending to surrounding structures. The first two varieties are very difficult to remove completely and as a rule the greater portion of the stomach has to be excised in these cases. The last variety is more easy to operate upon and gives the best results. Dr. Schuchardt showed a stomach the whole of which, with the exception of only a small portion, was removed three years ago for carcinoma. Death ultimately occurred from pleurisy and it was then found that the piece which was left had become dilated almost to the size of a normal stomach.

Dr. STENDEL (Heidelberg) gave an account of a series of 290 operations on the stomach performed by Professor Czerny during the last eight years. The average death-rate was 24·8 per cent.; in the first year it was 45 per cent., but decreased to 16 per cent. in the last year. Pylorectomy was but seldom performed, as pyloroplasty had proved to be preferable. Of 8 cases of pylorectomy 2 are still alive after seven and eight years respectively. Of 9 cases of pyloroplasty 4 were successful, but in one case gastro-enterostomy had to be performed subsequently. The operation of gastro-enterostomy has been very much improved by the employment of Murphy's button and the mortality has decreased by 12 per cent.; it was found that the button came away in the fæces and no ill effects followed its use. Dr. Stendel finally mentioned the fact that some cases of carcinoma were cured by mere laparotomy, in the same way as has been observed in tuberculous peritonitis.

Professor MIKULICZ (Breslau) strongly urged the removal of the surrounding structures, especially the lymphatic glands, in the neighbourhood of the stomach.

Dr. DOYEN (Paris) showed his new method of pyloric operation consisting in isolation and resection of the pylorus by the aid of a *pince* invented by him, ligature of the duodenum and the stomach, and gastro-enterostomy.

Calot's Treatment of Spondylitis.

Dr. HOFFA (Würzburg) stated that 6 deaths have been reported as a sequel of Calot's treatment of spondylitis. It is especially dangerous when the spinal curvature is of several years' standing, when many vertebræ are involved, and when suppuration is going on. In other cases the method may be tried cautiously. Paresis of the lower extremities is generally improved by it. Dr. Hoffa referred to 23 cases treated by Calot's method without fatal results, but in two instances abscesses developed. The operation is generally followed by an immediate improvement in the symptoms, but it is not yet possible to give a definite opinion as to the permanency of the result.

Professor LORENZ (Vienna) said that Dr. Calot undoubtedly had the merit of having proved that an angular

[1] A translation of Dr. Schlatter's paper recording this case was published in THE LANCET of Jan. 15th 1898.

curvature of the spine will bear rough handling, but his method of treatment is unfortunately wanting in precision. Professor LORENZ has devised an apparatus by which the amount of extension is brought more directly under control; he advises that the curvature should not be straightened abruptly and by force and he is strongly of opinion that the treatment should be applied only to cases in which the vertebral column is capable of relaxation. His views have been already reported in THE LANCET of Nov. 20th, 1897 (p. 1360).

Dr. WULLSTEIN (Halle) said that he had made observations on dead bodies in which the vertebral column had been broken in accordance with Calot's directions and he had found laceration of the pleura and the lungs, hæmorrhage of the dura mater, laceration of the spinal cord, &c. The curvature ought to be straightened gradually, as the application of great force is liable to produce the lesions just enumerated. New formation of bone in the space between the vertebral fragments was not possible, as has been alleged by Dr. Calot.

The majority of other speakers, such as Dr. SCHEDE, Dr. KONIG, Dr. KÜMMELL, &c., were of opinion that Calot's method was not universally applicable and that angular curvature of the spine could be successfully treated only in the early stage of the disease and by a less energetic procedure.

Operations for Empyema.

Dr. JORDAN (Heidelberg) said that Estlander's method of subperiosteal resection of the ribs had not given good results, for of 8 cases only 2 were successful. In protracted cases Schede's operation is preferable as all the fistulæ are made visible. The resection must be a radical one. Of Dr. Jordan's patients 9 were cured, 5 were improved, and 1 is still under treatment. In children the results are still better than in adults. The operation may be performed on tuberculous patients provided that their general state is not bad. On one occasion Dr. Jordan successfully carried out Delorme's method of removing fibrinous masses on the pulmonary pleura. Of 27 cases described in the medical press 11 were cured in this way.

Dr. PERTHES (Leipsic) recommended that a Bunsen's air-pump, which is worked by a column of falling water, should be connected with the cannula in the pleural cavity by means of a caoutchouc tube, so that the rarefaction of air produced by the pump might make the lung dilate.

Dr. KAREWSKI (Berlin) showed patients on whom he had operated for abscess of the lung as well as a patient suffering from actinomycosis who had been nearly cured by resection of the thoracic walls and cauterisation of the affected portion of the lungs by Dr. Paquelin's thermo-cautery.

The Serum Treatment of Diphtheria.

Professor KRONLEIN (Zürich) exhibited Statistical Tables, which showed (1) that the prevalence of diphtheria in the canton of Zürich had been nearly uniform during the past fifteen years; and (2) that the mortality rapidly decreased as soon as antitoxin serum was used on a somewhat large scale. In his clinic all the patients were examined bacteriologically and serum was administered in every case of diphtheria without exception. This was the only way of arriving at accurate statistical results. Of 1336 cases treated before the serum-period 554 (=39·4 per cent.) died, whilst during the serum-period there were 55 deaths among 437 cases (=12 per cent.). In cases of tracheotomy the death-rates before and during the serum period were 66 and 38·8 per cent. respectively; and, moreover, the operation is now performed much less frequently than before. The good effects of antitoxin serum were shown by rapid improvement of the patient's general state, decrease of temperature, loosening of the croupous membranes, decrease of glandular swelling, absence of tracheal croup and stenosis, and absence of diphtheritic infection of the tracheotomy wound.

Rifle Bullets of the British Army.

Professor VON BRUNS (Tübingen) made a communication relative to the bullets used by the British army in recent warfare. These projectiles were originally coated with nickel, but as it was found that the enemy when wounded were not invariably disabled the nickel coating was filed away from the top of the bullet. In fact, the nickel covering enabled the bullet to pass through the body making only a relatively small wound, but when this covering was removed from the top the lead was flattened out as soon as it struck the body, by which flattening the remainder of the covering was burst open in an explosion-like way, inflicting wounds of an astonishingly severe character. These bullets, which are termed Dum-Dum bullets, are now officially introduced into the British army. In experiments made with them on dead bodies Professor von Bruns found that shots fired at distances of from 25 to 50 metres (from 80 to 160 yards) caused wounds of the skin as large as a hand, the muscles were lacerated, great pieces of bone were torn out, and the wound was filled with fragments of lead and nickel. Professor von Bruns said that these bullets were in accordance with the letter but not with the spirit of the Convention of St. Petersburg, by which the use of explosive projectiles was prohibited. The convention would therefore have to be amended and he would be glad if the discussion of the question by the Surgical Association would have the effect of inducing the German Government to take the necessary steps.

Operations on the Liver and Gall bladder.

Dr. PETERSEN (Heidelberg) gave an account of 162 Operations on the Liver and Gall-bladder performed in the surgical clinic by Professor Czerny. In 65 cases single cholecystotomy was performed, in 1 case cystotomy by two successive operations, in 6 cases dialysis, in 3 cases cholecystopexy, in 10 cases cholecystectomy (with 2 deaths), and in 20 cases choledochotomy (with 4 deaths). Choledochoduodenostomy was performed on 11 patients, with 4 of whom Murphy's button was used. Single cystotomy must be the normal operation. Cystectomy must be resorted to in cases of malignant growths. In 2 of the cases of cholecystotomy some calculi were left behind; the other patients did not relapse. Biliary fistulæ were established in 8 instances, but it was found that they did not occur when drainage-tubes were inserted in the gall-bladder after the operation. In 50 cases the bile was examined bacteriologically, with the result that colon bacilli were found in 38 cases, streptococci in 6, and staphylococci in 4. After the operation the bacteria usually decreased rapidly. Carcinoma was present in 30 cases and sarcoma in 3 cases.

Dr. RIEDEL (Jena) said that death after operation may be caused by infection of the bile. In the great majority of cases the bile is aseptic, so that it may penetrate into the peritoneal cavity without any harm, but on the other hand it may contain pathogenic bacteria. It is difficult to say before the operation whether the bile is infected or not, but patients with healthy bile generally feel well when the fit is over, whilst those whose bile is infected become cachectic. Patients of this kind are lost with or without operation.

Dr. FRANKE (Brunswick) showed some Gall-stones which had been broken by a medical man who had applied manual force through the abdominal walls without laparotomy. The fragments lacerated the gall-bladder and an abscess of the liver developed.

Space permits only a passing reference to the other papers read at the meetings of the association, the principal of them being as follows: by Dr. VON ZOEGE MANTEUFFEL (Dorpat) on Volvulus; by Professor VON BRAMAN (Halle) on Intestinal Resection for Carcinoma; by Dr. DOYEN (Paris) on Operations on the Brain; by Professor GARRÉ (Rostock) on Resection of the Œsophagus, &c.

At the final meeting Professor Hahn of Berlin was elected president. Of British members Mr. Arthur E. Barker of London and Professor Alexander Ogston of Aberdeen were present.

LITERARY INTELLIGENCE. — Messrs. Baillière, Tindall, and Cox inform us that they have the English agency for Kobert's "Practical Toxicology" which was noticed in our columns last week. They will publish during the next few days a "Manual of Surgery" by Professor Wm. Rose of King's College Hospital, and Mr. Albert Carless, Teacher of Operative Surgery in King's College. The work will take a place between the large text-books and the smaller manuals which are not now deemed sufficient for examinational purposes. They will also publish "Outlines of Practical Surgery" by Mr. W. G. Spencer of the Westminster Hospital and a new edition of Pearmain and Moor's "Manual of Applied Bacteriology," with coloured plates, the first edition of which has run out in a few months.—Messrs. Munns and Allen, Broad-street, Birmingham, have published a booklet of 48 pages containing a useful collection of annotations on the British Pharmacopœia of 1898, with remarks on the important differences between the present Pharmacopœia and its predecessor of 1895 and the additions of 1890. The price is 1s. The author is Mr. Thomas Chase, pharmaceutical chemist, Five Ways, Edgbaston, Birmingham.

Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the Convocation held on April 23rd the following degrees were conferred:—

Doctor in Medicine.—Ernest Chittenden Bridges, M.B., B.S. Durh.; Robert Cunyngham Brown, M.B., B.S. Durh.; Harry Crichton, M.B., B.S. Durh.; Charles Holmes Joy, M.B., B.S. Durh.; Nicholas Magoris, M.B., B.S. Durh.; William Rawes, M.B. Durh.; William Rushton Shortt, M.B., B.S. Durh.; James Ward Summerhayes, M.B. Durh.; and William Edwyn Falkingbridge Tinley, M.B., B.S. Durh.

Doctor in Medicine (Practitioners of Fifteen Years' Standing).—Moses George Biggs, M.R.C.S., L.S.A.; Francis Charles Bryan, M.R.C.S., L.S.A.; William Lindsay Chubb, M.R.C.S., L.R.C.P.; William Darley-Hartley, M.R.C.S., L.R.C.P.; Charles Graham Havell, M.R.C.S., L.R.C.P.; Henry Martin Lightoller, M.R.C.S., L.R.C.P., L.S.A.; Justin McCallum McCarthy, M.R.C.S., L.S.A.; Lawrence Willmer Kinglake Phillips, M.R.C.S., L.S.A.; and Alfred James Turner, L.S.A.

Master in Surgery.—John William Henry Eyre, M.D., B.S. Durh., and Ernest Robert Kendall, M.B., B.S. Durh.

Bachelor in Medicine.—Thomas George Drabble Adams, College of Medicine, Newcastle-upon-Tyne; Henry Edward Montgomery Baylis, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; John Thomson Bell, College of Medicine, Newcastle-upon-Tyne; Francis Ward Crossman, M.R.C.S., L.R.C.P., and Herbert James Godwin, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; John Harris, B.A., Guy's Hospital; Frederick Charles James, M.R.C.S., L.R.C.P., and Howard Percy Kennard, St. Thomas's Hospital; Ralph Albert Rogers Lankester, University College Hospital; Harold Turner Newton and Theodore John Phillips, College of Medicine, Newcastle-upon-Tyne; Arthur Montague Rygate, M.R.C.S., L.R.C.P., Guy's Hospital; Reginald Charles Jeremie Stevens, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Thomas John Augustus Tulk-Hart, M.R.C.S., L.R.C.P., Guy's Hospital; and Percy Edward Turner, M.R.C.S., L.R.C.P., and Maurice Dale Wood, St. Bartholomew's Hospital.

Bachelor in Surgery.—Thomas George Drabble Adams, College of Medicine, Newcastle-upon-Tyne; Henry Edward Montgomery Baylis, M.R.C.S., L.R.C.P., St. Batholomew's Hospital; John Thomson Bell, College of Medicine, Newcastle-upon-Tyne; Francis Ward Crossman, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; John Harris, B.A., Guy's Hospital; Howard Percy Kennard, St. Thomas's Hospital; Ralph Albert Rogers Lankester, University College Hospital; Harold Turner Newton and Theodore John Phillips, College of Medicine, Newcastle-upon-Tyne; Reginald Charles Jeremie Stevens, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Thomas John Augustus Tulk-Hart, M.R.C.S., L.R.C.P., Guy's Hospital; and Percy Edward Turner, M.R.C.S., L.R.C.P., and Maurice Dale Wood, St. Bartholomew's Hospital.

At the third examination for the degree of Bachelor in Medicine held at the College of Medicine, Newcastle-upon-Tyne, in April, the following candidates satisfied the examiners:—

Second-class Honours.—Howard Henry Congreve Dent, M.R.C.S., L.R.C.P., Mason College, Birmingham, and Norman Christian Bailes, College of Medicine, Newcastle-upon-Tyne.

Pass List.—Solomon Cross, George Oswald Morrell Dickenson, and Harold Ben Fawcus, College of Medicine, Newcastle-upon-Tyne; Charles Edward Fenn, King's College, London; Charles Thomas Holmes, John Rutherford Halliday, Douglas Hethcote, and Ernest Inman, College of Medicine, Newcastle-upon-Tyne; Samuel Percy Johnson, Mason College, Birmingham; Maurice Jacobs, James Milligan, James Muirhead, and Robert Lowis Routledge, College of Medicine, Newcastle-upon-Tyne; Grace Harwood Stewart, London School of Medicine for Women; and Edward Norman Threlfall, Charles Augustus Vogwell, and David Henderson Weir, College of Medicine, Newcastle-upon-Tyne.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April sittings of the Examiners of the Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow, held in Glasgow, the following candidates passed the respective examinations:—

First Examination, Five Years' Course.—John William Isbister, Glasgow; David Joseph Cagney, Blarney, Cork; David Moodie, Whitelnch; Joseph R. W. Sutton, Cork; William Thomson, Glasgow; James Joseph Egan, Galway; Anthony H. Corley, Belfast; Hugh Williams, Glasgow; Frederick A. Georgeson, Edinburgh; and Syed Zamiruddin, Glasgow.

First Examination, Four Years' Course.—John Gemmel Welsh, Irvine; William Hunter, Sunderland; Patrick Park, Belfast; John Allison Maclardy, Glasgow; Richard M'Kim Wilkin, Belfast; Jas. Ebenezer Boon, Glasgow; George M. Freke, Edinburgh; and Joseph C. Shelmerdine, Partick.

Second Examination, Five Years' Course.—James Noble, Pollokshields; David Crombie, Crossmyloof; Charles Wm. Sharp, Glasgow; John Bell Walker, Rutherglen; David S. Erskine M'Nab, Shotts; Percival Horace Rainbird, Glasgow (with distinction); Harry Miller Roberts, Pollokshields; William M. Battersby, Glasgow (with distinction); John Campbell Douglas, Greenock (with distinction); Peter M'Kellar Dewar, Glasgow; John Tudor Griffiths, Glasgow; William Burns, Belfast; Alice Miles, Glasgow; William Turner, Glasgow; Joseph Burnard O'Mahony, Midleton, County Cork; Robert Elwell-Naish, Glasgow; and Francis Andubon Gray, Edinburgh.

Second Examination, Four Years' Course.—Arthur Clarence Turner, Londonderry; John M'Elroy, Glasgow; Bartholomew Francis Murphy, Edinburgh; Lawson S. Shennan, Edinburgh; Arthur Mellor Crosfield, Edinburgh; John Ellul, Edinburgh; Oliver Scanlan, Glasgow; and Andrew Snody Omand, Edinburgh.

Third Examination, Five Years' Course.—James Valentine Roche, Edinburgh; Thomas Richard W. Atkins, Edinburgh; Reginald Storrs, London; Joseph Fulton, Antrim; David Fyfe, Glasgow; Albert Sophron Sieger, Greenock; John Thomas Moore, Dublin; Thomas Day Bird, Glasgow; and Charles M'Donnell, Edinburgh.

Final Examination, and admitted Licentiates of the Three Colleges.—Hugh Macpherson, Oban; Edwin Thomas Walker, Smethwick; Harry Lowick Phelps, Bishopton, Bristol; Henry Gard, Devonport; Robert Mackie, Glasgow; James M'Glynn, Castlederg; Kenneth F. Lund, Liverpool; Arthur Frederick Seacome, Rock Ferry, Cheshire; John Boyd, Dublin; Hugh Owen Jones, Festiniog (with honours); John Farmer, Clydebank; Hugh Joseph Fern, Greenock; Andrew M'Credie, Stranraer; and John Francis M'Givern, Melbourne.

UNIVERSITY OF CAMBRIDGE.—At the congregation on April 28th the following medical and surgical degrees were conferred:—

Bachelor of Medicine and Bachelor of Surgery.—R. A. Yeld, B.A., Trinity; C. C. Stead, B.A., Caius; A. Trethewy, B.A., Caius; and E. J. Woolley, B.A., Caius.

Bachelor of Medicine.—G. F. McCleary, B.A., Trinity Hall.

"Paley's Evidences" have been retained as one of the subjects of the Previous Examination by the Senate. There were 109 votes for the subject and 70 against.

APOTHECARIES' HALL OF IRELAND.—The following candidates at the examinations in April passed in the subjects indicated:—

Physics and Chemistry.—G. O'Callaghan Walsh.
Biology.—R. Treacy and G. O'Callaghan Walsh.
Anatomy.—R. Treacy.
Second Professional Examination: Advanced Anatomy.—R. Tichborne.
Third Professional Examination: Pathology.—F. E. Bass.

UNIVERSITY OF LONDON.—At the meeting of the Senate held on April 27th the following were among the gentlemen elected examiners for 1898-9:—Mental and Moral Science: Professor S. Alexander and Professor William Knight, LL.D. Mathematics and Natural Philosophy: Mr. E. W. Hobson, Sc.D., F.R.S., and Mr. Joseph Larmor, D.Sc., F.R.S. Experimental Philosophy: Professor G. F. FitzGerald, F.R.S., and Professor Silvanus Thompson, D.Sc., F.R.S. Chemistry: Professor Wyndham R. Dunstan, F.R.S., and Professor William Ramsay, Ph.D., LL.D., F.R.S. Botany and Vegetable Physiology; Professor F. W. Oliver, D.Sc., and Professor J. W. H. Trail, M.D., F.R.S. Comparative Anatomy and Zoology: Mr. F. E. Beddard, F.R.S., and Professor G. B. Howes, LL.D., F.R.S. Geology and Physical Geography: Professor T. G. Bonney, Sc.D., LL.D., F.R.S., and Professor Charles Lapworth, LL.D., F.R.S. Practice of Medicine: Dr. W. H. Allchin and Dr. Frederick Taylor. Surgery: Mr. William Anderson and Mr. W. Watson Cheyne, F.R.C.S. Eng., F.R.S. Anatomy: Professor G. D. Thane and Professor A. H. Young, M.B. Physiology: Professor J. G. McKendrick, M.D. Aberd., F.R.S., and Professor E. A. Schäfer, LL.D., F.R.S. Obstetric Medicine: Dr. G. E. Herman and Dr. Peter Horrocks. Materia Medica and Pharmaceutical Chemistry: Dr. D. J. Leech and Dr. Sidney Phillips. Forensic Medicine: Professor J. Dixon Mann, M.D. St. And., and Dr. Thomas Stevenson. State Medicine: Dr. Arthur Newsholme and Dr. Edward Seaton. Mental Physiology: Professor S. Alexander and Dr. T. Claye Shaw.

ROYAL INSTITUTION.—On Friday evening, April 29th, Professor Andrew Gray delivered a discourse on Magneto-optic Rotation and its explation by a gyrostatic medium. In the principal optical experiment which was shown a rod of Faraday's "heavy glass" (borate of lead) mounted between two Nicol's prisms was traversed by a beam of light. When the prisms were crossed the transmitted light gave only a very faint disc on the screen, but when a magnetic field was created by passing a galvanic current through a coil of wire surrounding the glass rod the illumination of the disc was distinctly increased without any change in the position of the prisms. Lord Kelvin has suggested that the phenomena point to molecular motion in the medium being the cause of this magnetic rotation of the plane of polarisation, while the so-called "natural" rotation produced by solutions of sugar and many other substances is probably due to the structure of the medium. Precessional motion and other effects produced by gyrostats were shown as well as a gyrostatic pendulum, which constantly changed its plane of vibration, tracing looped figures which were shown on a horizontal blackboard by means of a stream of white sand falling from the pendulum.

FRENCH HOSPITAL AND DISPENSARY.—The thirtieth annual dinner for the benefit of this institution takes place this (Saturday) evening at the Hotel Cecil, His Excellency the French Ambassador in the chair, supported by the Lord Mayor and Sheriffs of London.

LLANELLY HOSPITAL.—Owing to some unpleasantness among the nursing staff of Llanelly Hospital the committee recently decided to accept the resignations of the matron and nurses, who accordingly left on April 28th, and another matron has been placed temporarily in charge. The committee had (as was stated in THE LANCET of April 30th) intended to close the institution for the purpose of replacing the staff but now find that there will be no necessity to do so.

THE SAVAGE CLUB AND THE MEDICAL PROFESSION.—On Saturday, May 7th, at the House Dinner of the Savage Club the Medical Profession will be strongly represented. Among the guests of the Chairman (Mr. J. Y. W. MacAlister) will be the Presidents of the Royal College of Physicians of London and the Royal College of Surgeons of England (Sir Samuel Wilks and Sir William MacCormac), Sir Dyce Duckworth, Sir William Gowers, Sir Thomas Smith, Professor David Ferrier, Dr. Church, Dr. C. J. Hare, Mr. Thomas Bryant, Mr. Warrington Haward, and others.

THE RECOVERY OF MEDICAL FEES.—At Totnes County Court, on April 25th, Judge Woodfall read a judgment of Judge Edge *re* Dr. K. R. Smith *v.* Mrs. Payne Collier. Plaintiff, a medical man of Totnes, sued defendant for £41 for medical attendance and medicine. Judge Edge stated that there was no doubt that plaintiff was employed by defendant, that she was in possession of a free and separate estate which would reasonably bind her to any contract, and that the evidence showed that the maintenance of Mr. and Mrs. Payne Collier and their family depended upon Mrs. Payne Collier's income, which was about £500 or £600 per annum. Judgment was given for plaintiff with costs.

DIPHTHERIA IN LONDON.—The decrease in the amount of diphtheria in London chronicled in the four weeks ended on March 26th as compared with the like period ended on Feb. 26th has been fully maintained in the four weeks concluded on April 23rd. In the March period the total of notified cases was 813 and the successive weekly numbers were 202, 174, 221, and 216. But in the April period the weekly figures only once reached 200, having been 182, 174, 203, and 170, the tendency to increase in the third week of the period having been spasmodic only. The aggregate of these four totals, 729, falls short by 84 of that for the March period and the weekly average of the earlier month of 203 gives place to one of 182 notified cases. In March one district escaped invasion, in April all districts reported cases, although in 6 of them only 12 cases in all were recorded. In each period two districts had upwards of 50 cases each, the same two districts, moreover, being in question, the total of 140 in these areas in March being replaced by 131 in April. In the matter of fatal diphtheria the weeks of the earlier month recorded 38, 33, 36, and 53 deaths respectively, an average of 40 per week, and a total of 160. In April the successive figures were 45, 29, 34, and 31, an average of 35 deaths per week, and a total of 139. Here, then, also we see a fall; and the case mortality, which had been 19·7 per cent. in March, declined to 19·1 per cent. in April. In the Outer Ring the registered deaths have, on the whole, remained much the same in the two periods—namely, 22, 19, 10, and 16, or 67 in all in March, and 15, 13, 21, and 16, or 65 in all during the April period.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Irish Local Government Bill.

THIS measure is slowly making its way through committee of the whole House. Clause 9, dealing with the future provision and management of lunatic asylums, occupied a very long time in its discussion, but though a great many amendments were moved few were carried and the clause practically remains in its original form. A proposal was made by Mr. Lecky that instead of entrusting lunacy administration to county councils the Government should keep it in its own hands and meet the cost out of the Imperial funds. The proposal, however, was resisted by the Government and defeated by a large majority.

Midwives Registration Bill.

The second reading of this measure stands as the first order for Wednesday of next week, but it is open to the Government to put the Irish Local Government Bill in front of it, and this course is almost certain to be adopted. If it is, then the Midwives Bill will be relegated to the crowd of private members' Bills which have practically no chance of being discussed during the present session.

HOUSE OF COMMONS.

THURSDAY, APRIL 28TH.

Lead Poisoning in the Potteries.

Mr. M'Kenna asked the Home Secretary whether he had received a petition from working potters in Burslem, Hanley, and the district in which the recent deaths, blindness, and other suffering from lead poisoning had occurred asking that a female inspector be appointed for the potteries; and whether, in view of the large number of women and young persons employed, amongst whom the greatest sufferers from lead poisoning are found, he would consider the desirability of appointing a female inspector to take charge of the district under the control of the chief inspector.—Sir Matthew White Ridley replied that he had received the petition to which the hon. Member referred and he had consented to receive a deputation from the district on the subject. In these circumstances he should prefer not to make any statement at present.

Medical Referees in Scotland.

Sir John Leng asked the Home Secretary whether he would appoint medical referees in Scotland as well as in England under the Workmen's Compensation Act of last session, and, if so, whether any special regulations would be made with regard to their qualifications and duties.—Sir Matthew White Ridley replied that he proposed to appoint medical referees in Scotland and the regulations would be the same as in England with such variation in details as might be made necessary by the differences between county courts in England and sheriff courts in Scotland. On this latter point he was in communication with the Scottish Office.

Venereal Disease in the Straits Settlements.

Mr. Chamberlain, replying to questions on this subject, said: I informed the Straits Settlements Association, in reply to their letter of Nov. 8th, that I was not prepared to sanction the re-enactment of the Contagious Diseases Ordinances in the Straits Settlements, but that I was conferring with the Governor as to whether other measures could be taken to check the spread of venereal diseases in that colony. The correspondence with the Governor is not yet completed, but when it is it will be laid before the House.

FRIDAY, APRIL 29TH.

Experiments on Living Animals.

Mr. Jesse Collings moved for a return showing the number of experiments performed on living animals during the year 1897 under licences granted under the Act 39 & 40 Vict. c. 77, distinguishing painless from painful experiments (in continuation of Parliamentary Paper No. 239 of Session 1897).—Mr. Swift MacNeill said he did not wish to oppose the return but he complained that the information given was incomplete and misleading. The return ought to show not the number of experiments but the number of animals experimented upon, because one experiment in a line of scientific research might involve the lives of as many as 40 or 50 animals. Last year there were 7500 experiments and that would give the public to understand that only that number of animals were killed. Again, a distinction was carefully drawn between painful and painless experiments, but that was most misleading because "painless" only meant that the experiment was made under the influence of an anæsthetic and took no account of the subsequent suffering of the animal. He would also like to have information in the return as to the number of visits paid by the inspectors.—Mr. Collings, in reply, said that the return was perfectly fair and honest so far as it went, but if the hon. Member would communicate with the Home Office and explain his views as to the form the return should take he would see what could be done in another year. The motion was then agreed to.

The Troops and Civil Practitioners.

Captain Norton asked the Under Secretary of State for War whether, before employing civil practitioners in affording medical aid to the troops, every effort had in the past been made to obtain for that purpose the services of retired army medical officers, whether these be retired on pension and liable to recall or retired on a gratuity, and whose names appeared in the monthly army list up to December, 1897, as liable to recall.—Mr. Brodrick replied that every effort was being made to utilise the services of suitable retired medical officers, whether retired upon gratuity or otherwise. The preference, however, was given to those who were in receipt of retired pay.

Rabies in Surrey.

Mr. Skewes-Cox asked the President of the Board of Agriculture whether he was now in a position to withdraw the Dog Muzzling Order so far as it affected the administrative county of Surrey.—Mr. Walter Long replied: I am afraid that the time has not yet come for the withdrawal of the muzzling order now in force in Surrey. Four cases of rabies have occurred there during the past six months and in view of the proximity of the county to the metropolis and of the fact that the disease had been more or less prevalent within its area for several years past the relaxation of the Order at the present time would probably endanger the success of our operations and render the re-imposition of the muzzle necessary at no distant date.

The Tuberculosis Report.

Mr. Channing asked the President of the Board of Agriculture whether effect would be given to the recommendation made last August by one of Her Majesty's Commissioners on Agricultural Depression, and now made again in the recently issued report of the Royal Commission on Tuberculosis, that facilities should be provided at the expense of the State for the voluntary application of the tuberculin test to cattle, with a view to the gradual elimination of tuberculosis by the Danish method, and whether a supplementary estimate be presented for this purpose.—Mr. Walter Long replied: As

the hon. Member is aware the report of the Royal Commission to which he refers was only circulated on Tuesday last and the minutes of evidence and other documents are not as yet available. In any case, however, it is, I think, clear that it would be premature for me to submit to the Chancellor of the Exchequer any proposals for expenditure in the direction suggested until representative agricultural bodies have had an opportunity of considering the recommendations made by the committee and I am in a position to form some idea as to the extent to which stock-owners would be likely to avail themselves of the facilities proposed to be given.—Mr. Channing gave notice that he would seek an opportunity of calling further attention to the subject.

MONDAY, MAY 2ND.

Roentgen Rays in the Soudan.

Sir Alfred Hickman asked the Under Secretary of State for War whether he was aware that the medical staff with the army in the Soudan were not provided with the Roentgen rays apparatus; and whether he would take steps to supply the deficiency.—Mr. Brodrick replied that the Roentgen rays apparatus for field service required special construction. One was made for Egypt and was despatched thither on April 5th, together with a large one for use in the Station Hospital at Cairo.

Medical Examination for the Civil Service.

Colonel Dalbiac asked the Secretary to the Treasury, as representing the Postmaster-General, if the rule had been abolished enabling the refunding of medical fees paid by candidates who, having failed to pass the departmental doctor's examination, had been granted a re-examination by a medical board and had successfully passed it; by whom should the fee paid for the second medical examination be refunded; and was he aware that in a recent case in the South-Eastern District Office the Controller denied the liability of the department and referred the applicant to the Civil Service Commissioners, who, however, on March 1st replied that they were not liable for any of the expenses incurred in connexion with the special medical examination.—Mr. Hanbury replied that so far as the Postmaster-General was aware there never had been a rule for the repayment of medical fees to candidates for appointment in the Post Office who having failed to pass the departmental medical officer's examination, had been granted a re-examination by a medical board and had successfully passed it. For the examination by the medical officer of the Post Office no fee was charged to the candidate, but with the re-examination the Post Office had nothing to do. This when granted was granted by the Civil Service Commissioners and was not confined to Post Office candidates, and the Postmaster-General had ascertained that one of the conditions on which it was granted was that all expenses must be borne by the candidate whatever might be the result. In the particular case to which the hon. Member referred the circumstances appear to have been properly explained to the candidate.

TUESDAY, MAY 3RD.

The Sanitation of Post Offices.

Mr. Hanbury, replying to a question on this subject, said that all post-offices which were not provided by the Department itself were subject to inspection by the local sanitary authorities. Crown post-offices—that was to say, those provided by the Department—were, like other buildings the property of the Government, exempt from inspection by the local sanitary authority. The Postmaster-General was responsible for the supervision of the sanitary condition of these offices and by his direction the sanitary arrangements were under constant supervision by the officers in charge as well as by the local medical officers to the Department. They were also supervised by the professional officers of the Board of Works. When a sanitary inspector desired to visit one of these offices the officer in charge was instructed to obtain authority for him to do so. Whenever the staff of any office complained of inadequate arrangements for safeguarding their health the complaint was immediately investigated and steps were taken to apply any remedies that might be found necessary and practicable. In the circumstances it was not at present considered necessary that the local sanitary inspector or factory inspector should have further facilities for investigation.

The Plague in India.

Lord George Hamilton, in answer to Sir Mancherjee Bhownaggree, said that the despatch from the Government of Bombay on the riots which took place in that city in the beginning of March had been received. The Bombay Government were of opinion that the riots were not the result of political agitation or deliberately planned, but were merely a sudden ebullition of disorder among an uneducated and fanatical section of the community. They added that the leading representatives of all classes had exerted themselves to allay excitement. The despatch and enclosures would be included in the next set of plague papers laid upon the table.—Lord George Hamilton, replying to a question addressed to him by Sir John Leng, said that his latest information regarding the plague at Calcutta was dated May 1st and 2nd. The existence of local plague cases, he regretted to say, had been placed beyond doubt and instructions had been given for carrying out the preventive precautions prescribed by the Venice Convention. 23 cases of plague and 7 deaths occurred during the last four days of April. He was confident that the Government in combating the plague at Calcutta would give due weight to the religious sentiments of the people and would make every endeavour to obtain their cooperation.

Phossy Jaw in the Match Trade.

Sir Charles Dilke asked the Home Secretary whether his attention had been called to an inquest held at Bow on Saturday concerning the death from "phossy jaw" of a match dipper, aged twenty-two years, employed at Bryant and May's, and to the coroner's remarks upon the conduct of the manager of the factory; and whether he would consider if the time had come to prohibit the manufacture and importation of the class of matches requiring the employment of the more dangerous kind of phosphorus.—Mr. Pickersgill also asked the right hon. gentleman whether his attention had been called to the report of an inquest held at Bow on Saturday last on the body of Cornelius Lean, lately employed at the match factory of Messrs. Bryant and May, from which it appeared that Lean was poisoned by the yellow phosphorus used in the manufacture; that the factory doctor, who admitted that the death was due to "phossy-jaw," gave no indication of this fact on the certificate of death; and that the coroner commented on the apparent desire to hush the whole matter up, whether the factory doctor gave the notice to the chief inspector of factories required by sub-section (1) of section 29 of the Factory Act, 1895; whether the occupier of the factory gave the notices to the inspector and to the certifying surgeon for the district required by sub-section (3) of the same section; whether an inspector or some person on behalf of the Secretary of State was present at the inquest to watch the proceedings in accordance with section 19 of the same Act; if not, did the coroner send to the inspector the notice of the holding of the inquest required by that section, and, if such notice was sent, why did not the inspector attend; and what steps did he now propose to take in the matter.—Sir M. White Ridley replied: My attention has been called to this inquest. The case was not notified either by the occupier or the factory medical officer and the explanation given by the latter that he was not sure of the diagnosis appears to me to be far from satisfactory. In addition to the provisions of section 29 of the Act of 1895 the special rules in force in the factory required every case where there was any symptom of necrosis to be reported. The factory inspector attended the inquest and has visited the works. He reports that in other respects the special rules have been observed. I propose, however, to make further inquiries into the case. No other cases of phosphorus poisoning have been reported since the Act of 1895 and I do not therefore think that I should be justified in the unconditional prohibition of the use of yellow phosphorus.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANDERSON, GEORGE, M.B., C.M. Edin., has been appointed a Medical Officer for the Swinefleet Sanitary District of the Goole Union.

BAILEY, JOHN GEORGE, M.B., C.M. Edin., has been appointed Resident Medical Officer for the Victoria Hospital, Burnley, vice J. S. Warrack, resigned.

BLACKLOCK, J., M.D. St. And., has been appointed a Medical Officer for the Brindle Sanitary District of the Chorley Union.

BLAXALL, F. R., M.D. Lond., D.P.H. Camb., has been appointed a Bacteriologist by the Local Government Board.

BURGESS, A., M.D., B.Ch. Irel., has been appointed a Medical Officer for the Home No. 1 Sanitary District of the Lincoln Union.

CLUCKIE, N. G., M.B. Glasg., L.F.P.S., has been re-appointed Ophthalmic Surgeon for the Victoria Eye Infirmary, Paisley.

COOKE, WILLIAM H., M.D. Brux., M.R.C.S., L.R.C.P., L.S.A., has been appointed an Honorary Medical Officer to the Eastern Dispensary and Anæsthetist to the Royal United Hospital, Bath.

DONALD, ARCHIBALD, M.B., C.M. Glasg., D.P.H., has been appointed an Assistant Surgeon for the Victoria Eye Infirmary, Paisley.

DYSON, M. G., L.R.C.P. Lond., M.R.C.S., has been appointed First Resident Assistant Medical Officer for the St. John's-road Workhouse and Infirmary of the Parish of St. Mary, Islington.

FOX, EDWARD LAWRENCE, M.A., M.D., B.Ch. Cantab., M.R.C.P. Lond., M.R.C.S. Eng., has been appointed an Honorary Physician to the Plymouth Royal Eye Infirmary.

GAINS, J. E., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Garforth Hospital.

GARDNER, WM., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Nunney Sanitary District of the Frome Union.

GIDDY, C. F., M.B., C.M. Edin., has been appointed a Government Surgeon for the Colonial Hospital, Singapore.

GORDON, J. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer for the Dalwood and Stockland Sanitary District of the Axminster Union.

HARNESS, H. NELSON, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon for the Royal Cornwall Infirmary, Truro, Cornwall.

HAYES, T. C., M.A., M.D., has been elected Professor of Obstetric Medicine and Diseases of Women and Children by the Council of King's College, London.

HOWARD, J. A., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed a Medical Officer for the Seventh Sanitary District of the St. Saviour's Union.

HOWES, F. C. P., M.D. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Home No. 2 Sanitary District of the Lincoln Union.

KENDALL, N. F., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Chiddingfold Sanitary District of the Hambledon Union.

LEVICK, H. DRIFFIELD, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Senior Resident Medical Officer to the Royal Free Hospital, Gray's-inn-road, London.

LIGHTBURNE, E. A., L.R.C.S., L.R.C.P., has been appointed Police Surgeon for Bow, London.

MACGILL, H. M., M.B., C.M. Edin., has been appointed a Medical Officer for the Hartlepool Sanitary District of the Hartlepool Union.

MACLAREN, J. A., M.B., Ch.B. Vict., has been appointed a Second Resident Assistant Medical Officer for the Workhouse of the Township of Manchester.

MELLISH, J. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Wells Port Sanitary Authority.

MORRIS, S. GLANVILLE, M.D., M.S., has been appointed Certifying Factory Surgeon for the District of Nantgaredig, Carmarthen.

MUDGE, JAMES, M.R.C.S., L.R.C.P. Edin., L.S.A., has been re-appointed Medical Officer of Health by the West Penwith (Cornwall) Rural District Council.

O'RAFFERTY, J. C., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Medical Officer for the First Sanitary District of the Daventry Union.

PADBURY, G. J., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed a Medical Officer for the Kilmington Sanitary District of the Axminster Union.

PARRY, GEORGE HEARN, M.B., C.M. Edin., has been appointed Assistant Resident Medical Officer for the Royal National Hospital for Consumption and Diseases of the Chest, Ventnor, Isle of Wight.

PARSONS, ALLAN C., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Physician to the Royal Free Hospital, Gray's-inn-road, London.

PATON, G. A., L.R.C.S. Irel., has been appointed a Medical Officer for the Second and Third Sanitary Districts of the St. Saviour's Union.

PHILLIPS, JOHN, M.A., M.D., has been elected Lecturer in Practical Obstetrics by the Council of King's College, London.

PRESTON, C. H., F.R.C.S., L.D.S., has been appointed an Honorary Dental Surgeon for the Manchester Children's Hospital, Pendlebury and Garside street.

PRITCHARD, W. B., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Medical Officer for Home Patients, Manchester Infirmary.

PROBYN-WILLIAMS, R. J., M.D. Durb., L.R.C.P., M.R.C.S., has been appointed Assistant Anæsthetist for the Dental Hospital of London.

SMITH, GUY BELLINGHAM, M.B., B.S., F.R.C.S. Lond., has been appointed a Surgeon to the Surrey Dispensary.

TAYLOR, FRANK E., M.A., M.B., Ch.B., B.Sc. Vict., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Hospital for Women and Children, Leeds.

TAYLOR, F. R. P., M.D. Lond., B.S., L.R.C.P., M.R.C.S., has been appointed, *pro tem.*, Medical Superintendent for the Darenth Adult Asylum.

THURSFIELD, W., M.D. Aberd., L.R.C.P. Lond., M.R.C.S., has been appointed a Consulting Physician for the Bridgnorth and South Shropshire Infirmary, vice B. Fletcher.

WILLIAMS, RALPH PAUL, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Royal Free Hospital, Gray's-inn-road, London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £130 per annum, with prospect of increase, and rooms in the infirmary free, also coals and gas.

CITY AND COUNTY OF BRISTOL.—Medical Officer for the Workhouse. Salary £250 per annum, with an allowance of £30 per annum for rent. Applications to the Clerk to the Guardians, St. Peter's Hospital, Bristol.

CHESTER GENERAL INFIRMARY.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with residence and maintenance in the house.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY, Wakefield.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

COUNTY ASYLUM, Whittingham, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary commencing at £100 per annum, with prospect of increase, together with furnished apartments, board, attendance, and washing.

DONCASTER GENERAL INFIRMARY AND DISPENSARY, Doncaster.—Indoor Dispenser and Assistant to the House Surgeon. Board, lodging, and washing provided.

ESSEX AND COLCHESTER HOSPITAL, Colchester.—House Surgeon, single or widower without family. Salary £100 per annum, with board, residence, and washing at the hospital.

GUEST HOSPITAL, Dudley.—Resident Assistant House Surgeon, for six months. Salary at the rate of £20 per annum, with board, lodging, and washing in the hospital.

HANTS COUNTY ASYLUM, Farnham.—Third Assistant Medical Officer, unmarried. Salary £100 per annum, increasing to £125 after twelve months' service, with furnished apartments, board, washing, and attendance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, London.—Honorary Physicians and Honorary Surgeons.

HOSPITAL FOR WOMEN, Soho-square, London, W.—House Physician for six months. Salary £30 for that period. Also non-resident Clinical Assistant.

HULL AND SCULCOATES DISPENSARY, Parliament-street, Hull.—House Surgeon. Salary £200 per annum, with house (unfurnished), coals, and gas.

JOINT COUNTIES ASYLUM, Carmarthen.—Second Assistant Medical Officer, unmarried. Salary £100, increasing, if suitable, to £120, by increments of £10 at the end of the first and £10 at the end of the second year, with board, lodging, washing, and attendance.

LONDON THROAT HOSPITAL, Great Portland-street, W.—House Surgeon (non-resident) for six months. Salary £25.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer for the Eastern Fever Hospital, Homerton, N.E., unmarried. Salary, first year £160, for the second year £180, and for the third and subsequent years of service £200, subject to statutory deduction, with board, lodging, attendance, and washing. Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

PARISH OF ST. LEONARD, Shoreditch.—Medical Officer for the separate Infirmary, Hoxton-street, N., and for the adjacent Workhouse of the parish. Salary (apportioned between the Workhouse and Infirmary) either £300 per annum, with furnished apartments, board, washing, and attendance, or £400 per annum, with furnished apartments, lights, fire, and washing, subject to statutory deductions. Applications to the Clerk to the Guardians, Clerks' Offices Kingsland-road, N.E.

PRESCOT UNION.—Resident Medical Officer for the Workhouse and Infirmary at Whiston, unmarried. Salary £80 per annum, rising to £100 by annual increments of £10, with furnished apartments and residential allowances, subject to statutory deduction. Applications to the Union Clerk, Union Offices, Whiston, Prescot.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor, Isle of Wight.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging in the hospital. Applications to the London Office, 34, Craven-street, Charing-cross, London.

SCARBRO' HOSPITAL AND DISPENSARY.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum.

SCHOOL BOARD FOR LONDON, Victoria Embankment, W.C.—A Male and a Female Practitioner. Salary £250 per annum each.

SKAMEN'S HOSPITAL SOCIETY (Dreadnought), Greenwich, S.E.—House Physician. Salary £75 per annum, with board and residence. Applications to the Secretary, Greenwich.

ST. THOMAS'S HOSPITAL, London.—Assistant Physician.

TUNBRIDGE WELLS EYE AND EAR HOSPITAL.—Lady House Surgeon. Salary £60, and board and lodgings. Applications to the Honorary Secretary, 3, the Pantiles, Tunbridge Wells.

WARNEFORD HOSPITAL, Leamington.—House Surgeon for six months. Salary at the rate of £100 per annum, with board, lodging, and washing.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, Welbeck-street, W.—Honorary Surgeon.

WEST RIDING ASYLUM, Wadsley, near Sheffield.—Second Assistant Medical Officer. Salary £180, with board, &c., rising £10 annually to £230.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Surgeon, and to act as Surgical Registrar for one year. Salary £100 a year, with board, lodging, and washing. Also House Physician, and to act as Medical Registrar, Pathologist, and Anæsthetist, for one year. Salary £100 a year, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BOLUS.—On April 28th, at Beckenham, the wife of H. B. Bolus, M.B. Cantab., of a daughter.

CROUCHER.—On April 30th, at Onslow House, Burlington-place, Eastbourne, the wife of Alexander H. Croucher, M.D. Edin., of a son.

EVANS.—On April 27th, at Denmark Lodge, The Grove, Clapham-common, the wife of Lewis Evans, L.R.C.P. Edin., L.F.P.S. Glasg., of a daughter.

FERRABY.—On April 27th, at St. Mary-street, Ladywood, Birmingham, the wife of G. A. Ferraby, L.R.C.P., M.R.C.S., of a son (Arthur Ludovic).

GASTER.—On May 2nd, at Greencroft-gardens, West Hampstead, N.W., the wife of A. Gaster, M.D., M.R.C.P. Lond., of a son.

MANN.—On April 30th, at Newgate-street, Chester, the wife of Alfred Mann, M.D., of a son.

SEGUNDO.—On May 3rd, at Brook-street, Hanover-square, W., the wife of C. S. de Segundo, M.B., B.S. Lond., of a son.

MARRIAGES.

HARDING—WALTON.—On April 27th, at St. Peter's, Swinton, Lancashire, Charles Headley Harding, M.R.C.S. Eng., L.R.C.P. Lond., only son of the late C. F. Harding, M.D. Lond., of Whittlesea, Cambs., to Florence Ada, youngest daughter of Joshua Walton, Esq., of Kingsley, Swinton.

HINDLEY—TYLER.—On May 1st, at Southampton, Godfrey Douglas Hindley, B.A. Oxon., M.R.C.S., L.R.C.P., of Queen's-road, N.E., to Alice Evelyne, eldest daughter of Sir John Tyler, M.D., C.I.E., of Hanover-square, W.

JONES—PORTER.—On April 27th, at Wreay Church, T. Henry Jones, M.B., C.M., eldest son of Henry Jones, of Chester, to Edith Frances Porter, youngest daughter of the late W. H. Porter, of Heads Nook.

JOHNS—DICKINSON.—On April 26th, at Misson, John Francis Johns, M.D., of Lansdown-place, Cheltenham, to Lucie, third daughter of the late John Dickinson, Misson, Bawtry.

KNIGHT—MITCHELL.—On April 27th, at St. Andrew's Church, Bolton-on-Dearne, W. H. Knight, L.R.C.P., L.R.C.S. Edin., of Cudworth, near Barnsley, to Ellen Josephine May Mitchell, daughter of the late Joseph Mitchell, C.E., J.P., of Bolton Hall, Rotherham.

LANE—COGHLAN.—On April 27th, at Stepney Parish Church, by the Rev. John Hallward, Harry Argell Lane, M.R.C.S. Eng., D.P.H. Camb., third son of Thomas Argell Lane, of Holbeach, Lincs., to Mary, eldest daughter of John Coghlan, of Rathgar, Dublin.

LOVEDAY—WIX.—At the Abbey, St. Albans, William Dunmore Loveday, L.R.C.P., M.R.C.S., son of William Loveday, of The Poplars, Irthlingboro', Northants, to Lilian Emily, youngest daughter of the late Samuel Wix, of Broadwater Down, Tunbridge Wells, Kent.

SCOTT—MURRAY.—On April 28th, at the John Knox Presbyterian Church, Newcastle-on-Tyne, by the Rev. A. Scott Berrie, T. O. Scott, M.A., M.B., eldest son of the late Mr. John Scott, of Berwick-on-Tweed, to Elizabeth Stuart, eldest daughter of A. D. Murray, editor of the *Newcastle Daily Journal*. No cards.

THORNE THORNE—HOUGHTON.—On April 27th, at St. Peter's, Old Woking, by the Rev. F. J. Oliphant, M.A., vicar, assisted by the Rev. W. F. T. Hamilton, M.A., Berthold Bezly, eldest son of Sir Richard Thorne Thorne, K.C.B., F.R.S., to Ruth Golding, daughter of the late John Houghton, of Liverpool, and of Mrs. Houghton, of Poundfield, Old Woking.

DEATHS.

AUSTEN.—On May 2nd, at Matto k-lane, Ealing, Josiah Austen, M.R.C.S., L.R.C.P., late Staff-Surgeon R.N.

GORDON.—On April 29th, at Hume-street, Dublin, Samuel Gordon, M.D., ex-President of the Royal College of Physicians of Ireland.

IRVING.—On May 3rd, at Royal York-crescent, Clifton, Bristol, Surgeon-General James Irving, M.D., Bengal Army (retired), aged 75 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (14th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (9th).—MEDICAL SOCIETY OF LONDON.—8 P.M. General Meeting for Election of Officers and Council for Session, 1898-99. 8.30 P.M. Ordinary Meeting. Mr. C. Mansell Moullin: The Treatment of Tuberculous Disease of the Bladder.—Dr. Macnaughton-Jones: Recurrent Hæmatemesis caused by Hepatoptosis discovered by Laparotomy.

TUESDAY (10th).—ROENTGEN SOCIETY (11, Chandos-st., W.).—7.30 P.M. Council Meeting. 8 P.M. Papers:—Mr. A. Apps: Notes on the Description of a New Induction Coil in *Electrical Review*, Feb. 4th, 1898 (with demonstration).—Dr. J. Macintyre: Some Notes on Contact Breakers. Followed by a discussion.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. S. West: Intra-pleural Tension.—Mr. A. Doran: A Case of Cyst of the Urachus, with notes on Urachal and so-called Allantoic Cysts

WEDNESDAY (11th).—SOCIETY OF ARTS.—8 P.M. Prof. V. B. Lewes: Water Gas and its Applications.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. D. Grant. Dr. Pegler, Mr. Wingrave, Mr. Baber, Mr. Robinson, Mr. Walsham, and others.

THURSDAY (12th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Edgware-road).—8.30 P.M. Dr. M. Handfield-Jones: The Clinical Aspects of Cancer of the Body of the Uterus.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover square).—8.30 P.M. Specimens will be shown by Dr. G. Bantock, Mr. F. Bowreman Jessett, Mr. W. D. Spanton (Hanley), Mr. J. F. Jordan (Birmingham), and Mr. C. Ryall. Dr. F. Edge: Notes of a Case of Uterus Septus Bilocularis and Vagina Subsepta. Paper:—Dr. F. Purcell: The Risks to the Ureters when Performing Hysterectomy, illustrated by a case in which both Ureters were Occluded and freed fifty-eight hours after. Discussion on Dysmenorrhœa (opened by Dr. G. Bantock).

FRIDAY (13th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. D. B. Lees and Mr. A. Q. Silcock: Case of Cæcal Intussusception, Excision of involved Gut, Recovery.—Dr. W. S. Colman and Mr. T. H. Kellock: Case of Chronic Intussusception of the Cæcum with extreme Latency of Symptoms.—Dr. D. B. Lees: Case of Chronic Intussusception treated by Irrigation and an Icebag, Recovery. Dr. H. D. Rolleston: Case of Perforation of the Vermiform Appendix in the Course of Ambulatory Typhoid Fever, Operation, Death.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (9th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. E. Woakes: Nasal Neurosis.

TUESDAY (10th).—ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. S. M. Copeman: On the Natural History of Vaccinia. (Milroy Lecture.)

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Lichen Planus and Acuminatus.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Taylor: Lecture.

WEDNESDAY (11th).—LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Construction of Dwelling-houses.

THURSDAY (12th).—LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. T. Williams: Clinical Lecture.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Clinical Demonstration of Surgical Cases. (Post-graduate Class.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow.

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Lantern Demonstration to Senior Students—Lung Disease.

ROYAL INSTITUTION.—3 P.M. Right Hon. Lord Rayleigh: Heat.

LONDON SKIN HOSPITAL (40, Fitzroy-square, W.).—4 P.M. Mr. J. Startin: Rare Clinical Cases.

FRIDAY (13th).—LONDON POST-GRADUATE COURSE.—King's College 3 to 5 P.M., Dr. Wilkinson: Examination of Air, Soil, and Water.

ROYAL INSTITUTION.—9 P.M. Prof. W. A. Tilden: Recent Experiments on certain of the Chemical Elements in relation to Heat.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

UNREGISTERED PRACTITIONERS.

MR. LEOPOLD LEIBSTER was recently charged at Worship-street Police-court with having wilfully used the name and title of a Doctor of Medicine, he not being registered as a medical practitioner. His cards and plate bore the words M.D. Vienna, but he admitted to a patient who called on him at the instance of the prosecution that he could not give a certificate as he was not registered in this country. It was allowed that he was registered in Vienna. The magistrate dismissed the summons and gave defendant his costs, agreeing to state a case for a higher court. This being the case we refrain from any comment.

AN OPPORTUNITY!

To the Editors of THE LANCET.

SIRS,—The enclosed is a copy of a letter from a young cousin of mine in South Africa and is of course quite innocently written and well meant on his part. It may be thought worthy of more extensive circulation through your columns, free, gratis and for nothing, as Mr. Bone will not be distracted with a multitude of offers.

I am, Sirs, yours faithfully,

May 2nd, 1898. B.

[ENCLOSURE.]

March 27th, 1898.

MY DEAR C——,—There is a man here named Wm. Bone, a doctor who passed all his exams. except his final, consequently has no degree. He has been practising here for the last five years and was making about £800 a year, but now the Government have jumped on him and shut him up. If you have the necessary degree and care to come out and go into partnership with him you could work up the business to, say, £1500 per annum or more. It is very nearly a cash business, Dutch people and Kaffirs. If you think anything at all about it write to Wm. Bone. He will answer any question you care to ask, and I think would pay your passage, or at all events part of it. Yours, &c., ——.

*** We have thought it wiser to omit Mr. Bone's address.—ED. L.

CIGARETTES.

MESSRS. OGDEN of Cornwallis-street, Liverpool, have submitted to us specimens of their Guinea Gold Cigarettes which they claim to be of pronounced purity. We found that they were composed of light Virginia leaf and were quite free from objectionable flavouring materials.

THE GREAT GREGORY.

To the Editors of THE LANCET.

SIRS,—Can you tell me if the great physician who is commonly known and spoken of as "Gregory" is the same Gregory who wrote "Conspectus Medicinæ Theoreticæ," published in 1833? I shall be glad if you can oblige me with the desired information in the next issue of THE LANCET. Thanking you in anticipation,

I am, Sirs, yours faithfully,

May 3rd, 1898. M.B.

*** There have been three Gregorys eminent in the medical world, John, James, and William, but James is the great Gregory. John was Professor of Medicine in Edinburgh University about 1765 and wrote "Observations on the Duties of a Physician" and a popular didactic work in the shape of letters called "A Father's Legacy." James succeeded his father as Professor of Medicine at Edinburgh and wrote the "Conspectus Medicinæ Theoreticæ," the first edition of which was published in 1780. He was a magnificent teacher and lecturer and a keen controversialist. William, his son, also a medical man, worked chiefly at chemistry. He was Professor of Chemistry at Edinburgh, edited Liebig's "Animal Chemistry," and wrote one or two original treatises. He was inclined to mystic views on the subject of animal magnetism.—ED. L.

THE FIERY ORDEAL OF FIJI.

THE May number of the *Wide World Magazine* among other interesting articles dealing with travel and adventure contains a vivid account of a religious ceremony "which has hitherto baffled the scientists and astounded the traveller in the South Seas." The ceremony, according to the writer, takes place in the island of Benga, the supposed residence of some of the old gods of Fiji. A circular oven is dug in the ground, measuring some 18 ft. or 20 ft. in diameter and lined with large water-worn stones which are made white-hot by means of a wood fire. So great is the heat that anyone but a native finds it intolerable to stand 10 ft. from the edge of the oven. The ceremony consists of the performers walking about bare-legged and bare-footed on the hot stones. It has been suggested that the natives are able to perform this feat because they have on the soles of their feet a natural sort of leathery substance which is a non-conductor of heat. But, says the writer, Lord Stanmore has stated that he has seen the natives while crossing a short extent of the shingly bed of a river in the hot sunshine compelled to rush into the stream to cool their feet.

"THE JOHN PAGE HENTSCH APPEAL."

To the Editors of THE LANCET.

SIRS,—Subjoined is a further list of contributions to this fund:—Mr. H. H. Clutton, F.R.C.S. Eng., £2 2s.; Dr. W. F. Brooke, £1 1s.; and Dr. de Havilland Hall, £1 1s.—I am, Sirs, yours faithfully,

410, Brixton-road, S.W., May 3rd, 1898. G. DAVID KNIGHT.

A LADY FACTORY INSPECTOR CONDUCTING HER OWN CASE.

ON April 29th a dressmaker of Wellington-street was summoned under the Factories Act for omitting to notify that some of her employées were working overtime and for failing to post overtime notices in the workshops. Miss Dean, the lady inspector, appeared and gave evidence in support of the charges. The defendant through her solicitor pleaded guilty and evidence having been given that this was by no means the first offence the magistrate fined the defendant in all £19 17*s.* 6*d.*

THE CHURCH HOUSE CHILDREN'S HOSPITAL.

To the Editors of THE LANCET.

SIRS,—About three years ago the birth of the society I founded was made known by a letter to the *British Medical Journal*. The principle of the scheme was the training of ladies in the means of reducing infantile mortality, the attachment of them to out-patient departments and their following up of infant patients by visits and instruction to the mothers in their own homes. After I left the Bristol Children's Hospital I tried to get the hospitals of Bristol to accept the services of my workers. For reasons best known to the institutions they refused and finding that in order to get access to the homes a dispensary was necessary I established one where nurses attended and followed up infant patients with necessary home supervision. Several distinguished specialists in children spoke highly of the scheme which I made known at various London hospitals at the outset. The society grew until a large building was taken and wards were furnished. This was advertised eight months ago and since then 800 new patients have been admitted and have been seen on an average seven or eight times each. Ten in-patients have been cared for and several operations have been done. There are two nurses on active duty and I reside on the premises. There are five beds and one in-patient—a charity case—under constant care for chores. The most of the money that supports the institution comes from fees arranged on a sliding scale to suit the patients, but forty subscribers' notes have been given away and 78 patients have been treated fully by me without fee or subscriber's note. Lectures on nursing are given and the ladies of the society make clothes and provide medical comforts and even milk for starving or very poor infants. The work is surely a noble one and in this crowded industrial centre a hospital is much needed. None of the workers are paid and no salary is allotted to me by the society. If a resident surgeon, two nurses, and a large building with twelve rooms and five available beds is a hospital then surely I have not erred in giving for the first time to the public what has been privately known for several months as the Nursery Aid Society's Cottage Hospital or Church House Children's Hospital. I am pleased to see that the Belgrave Children's Hospital is now about to begin lectures to nursery maids, but I believe when I began our Nursery Aid Society in August, 1895, at the Bristol Children's Hospital we were the first to insist on the great need of sending skilled nursery aid instruction into the actual homes of the people.

I am, Sirs, yours faithfully,

W. L. CHRISTIE.

The Church House Children's Hospital, May 3rd, 1898.

"ET DONA FERENTEM."

"Professor Munyon has, by cable, offered £100,000 worth of his medicines as his patriotic contribution to the United States Army and Navy."

We extract this item of information from the *News of the World* for May day and are wondering where the patriotism comes in.

Medicus.—Vaccination fees are reckoned as "emoluments" if the district medical officer is holding the appointment of public vaccinator at the time when he resigns the post of medical officer. Superannuation will be calculated, in our opinion, with reference to both district appointments and will vary in amount proportionally to the length of time that the holder has been in possession of the posts. This is a matter of opinion only. Until such points have been actually and officially decided it is not possible to answer with absolute certainty. Vide THE LANCET, vol ii., 1896, p. 1167.

J. A. R.—Our correspondent could not do better that use the popular form which he is told "is out of date." In our opinion it is the best form. We do not give reasons, for we do not pretend to be specialists in the mechanism of cycles; we only speak with regard to matters of health when such matters are in any way touched upon in relation to cycling.

Mr. A. Wright.—Public vaccinators are not mentioned by name under the Poor-law Superannuation Act of 1897, but in our opinion they do come under its provisions all the same. Our correspondent will find the matter fully dealt with in a leading article published in THE LANCET of Nov. 7th, 1896.

M.D. has not complied with the rule that correspondents must furnish their names and addresses.

Verax.—Our correspondent's communication will receive detailed attention next week.

Aqua.—We have no information.

Mr. M. Romey.—Yes.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 5th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia. in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
April 29	29·65	S.W.	0·04	94	60	49	50	52	Overcast
,, 30	29·58	S.	0·05	89	57	45	48	51	Overcast
May 1	29·81	S.	0·28	65	54	44	49	53	Overcast
,, 2	29·54	N.E.	...	112	69	49	51	52	Overcast
,, 3	29·53	S.W.	0·15	110	65	49	52	58	Cloudy
,, 4	29·41	S.W.	0·07	97	58	50	50	52	Cloudy
,, 5	29·88	S.W.	...	70	55	47	50	53	Cloudy

During the week marked copies of the following newspapers have been received: *Jarrow Express, Sheffield Independent, Acton Gazette, Le Temps (Paris), Hyde Reporter, Goole Wednesday Journal, Leicester Post, Carnarvon Herald, Westmorland Gazette, Todmorden Advertiser, Dorset County Chronicle, Burton Chronicle, Newcastle Journal, Birmingham Post, Leek Times, East Anglian Daily Times, Times of India, Pioneer Mail, Essex Times, Isle of Wight Chronicle, North Wilts Herald, Liverpool Daily Post, Northampton Mercury, Architect, Citizen, Warwick Advertiser, Builder, Cheltenham Mercury, Western Daily Press, Loughborough Mercury, Bury Guardian, Lancaster Standard, Leeds Mercury, Public Health, Keighley News, Sussex Daily News, Preston Guardian, Gravesend Standard, Manx Sun, Yorkshire Post, Mid-Counties Express, Hampshire Observer, Scotsman, Bristol Mercury, Sanitary Record, Evening Times (Glasgow), Western Mail, Dewsbury Reporter, Cornish News, New Ross Reporter, Montreal Star, Callender Advertiser, Walsall Advertiser, Caithness Courier, Brighton Gazette, Hong-Kong Weekly Press, Surrey Advertiser, Local Government Journal, Bradford Advertiser, City Press, Mining Journal, Local Government Chronicle, Coventry Herald, Reading Mercury, Gateshead Guardian, Hertfordshire Mercury, Journal of Gas and Sanitary Engineering, Ardrossan Advertiser, Caithness Courier, Cheadle Herald, &c., &c.*

Communications, Letters, &c., have been received from—

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Y.—Yu, Lond.

Letters, each with enclosure, are also acknowledged from—

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X.—X. Y. Z., Lond.; X., Lond.

Y.—Mr. H. K. Young, Middlesbrough.

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